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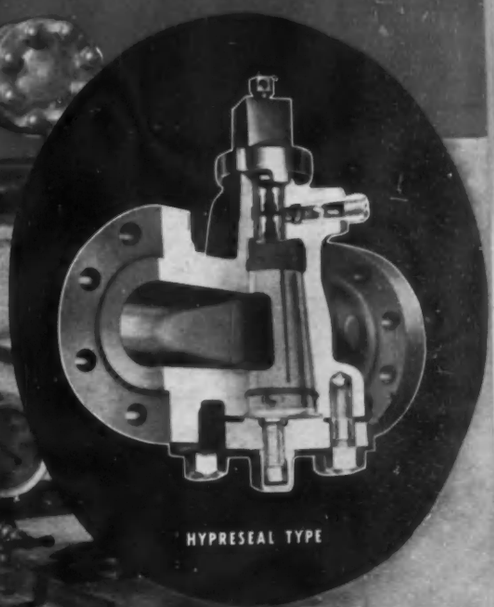

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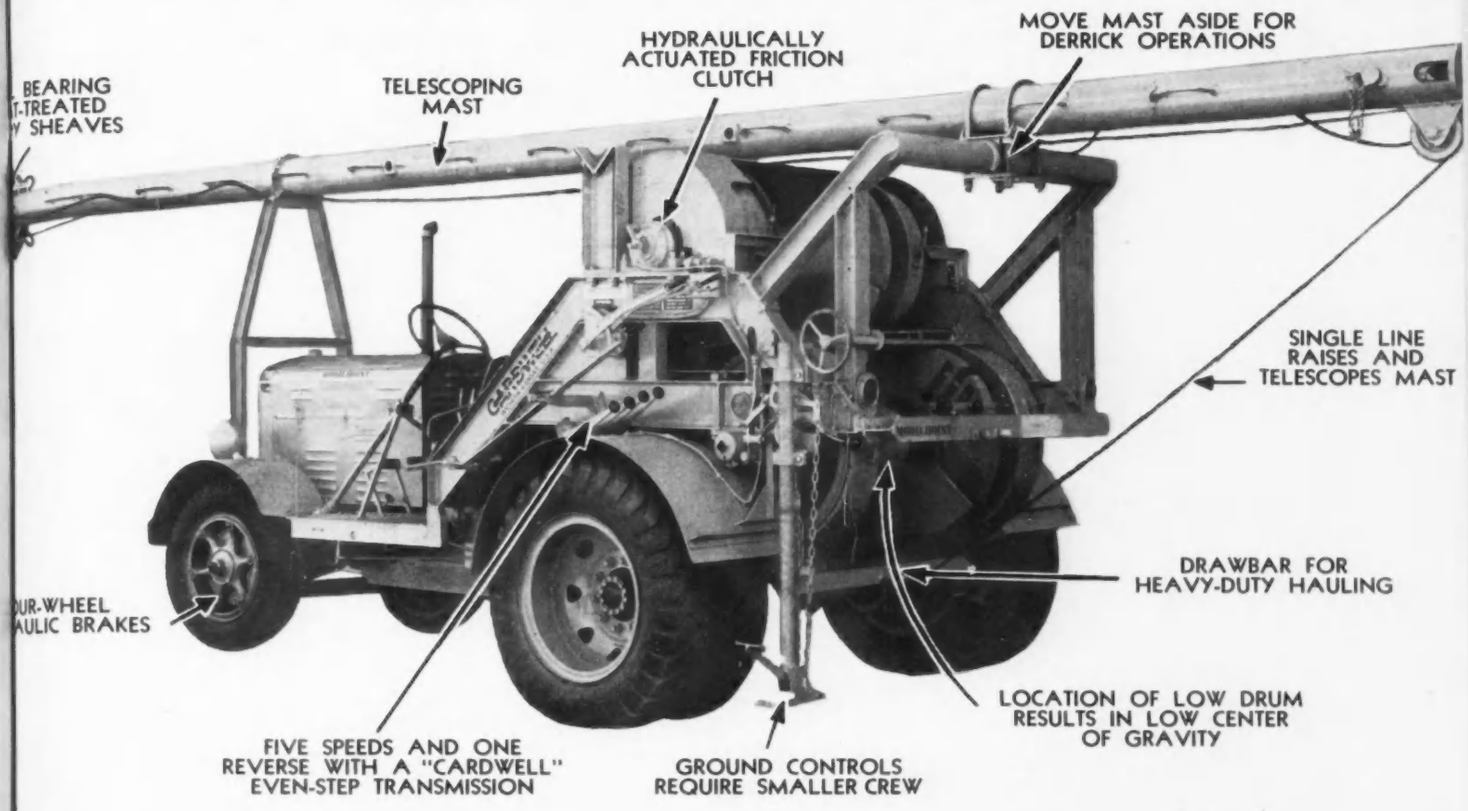
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Send for performance data, specifications and prices; or see your nearest "Cardwell" representative.

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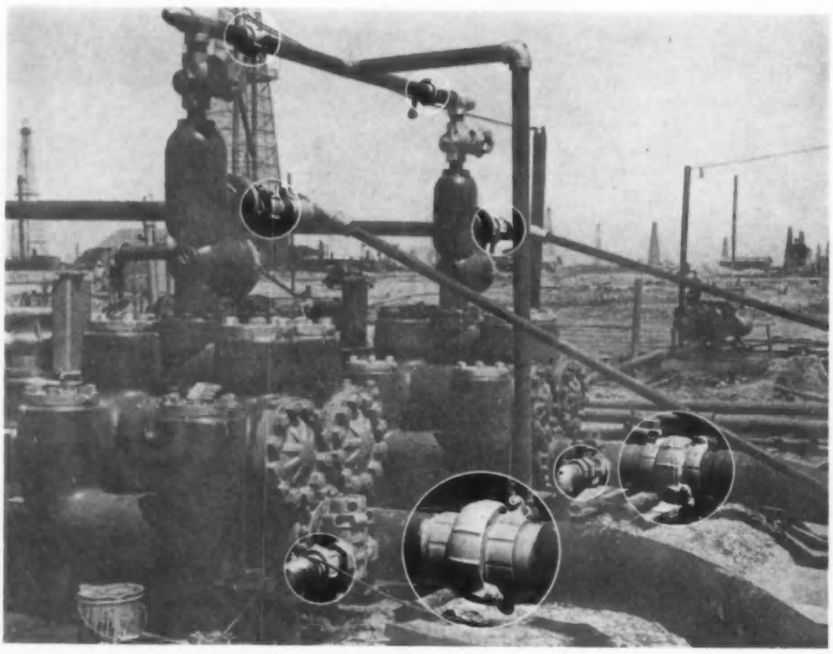

DRAW them tight—and take another turn. Man, that's putting them on to STAY! Worry? Not a bit. They're Thornhill-Craver Couplings, made to "stay put" when the rigger has done his job.

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Looking Ahead

WITH THE EDITOR

THE A.P.I. MEETING at Fort Worth next week will attract the attention of men in every branch of the industry. The program has been so arranged as to offer something of interest and value to executives and operating men, whether they are in the producing, pipe line or refining divisions.

Current technological problems will be discussed at length. An innovation will be a luncheon general session, at which Bruce Barton, member of Congress, will speak.

Group sessions will be held by the Division of Production on drilling and producing practices. A group session on public relations will be another attraction. The Division of Refining will hold group sessions on several refinery problems, stressing corrosion and fuels. The annual handicap golf tournament for the "J. Edgar Pew Trophy" will be staged Friday, May 31. Innumerable committee meetings will be in constant session from Friday, May 24, until Thursday evening.

Papers to be presented at the Division of Production four-group sessions will include such topics as: collapsing strength and setting depths of casing; accident prevention and safety measures on drilling rigs; depth measurement; utilization of rate-of-penetration data; hydraulics of mud-circulating systems; engine cooling; removal and prevention of paraffin accumulations; heat treating; galvanic corrosion; sucker-rod performance relationship to corrosive conditions; evaluating reservoir performance; optimum well spacing; effect of formation permeability on the plastering effects of mud fluids; and use of chemicals in reducing water-oil ratios.

Naturally a large group of oil production men will be in attendance at the meeting with such an excellent program planned. Among those present will be four or five from THE OIL WEEKLY, who will report the various activities of the Institute in our issue of June 3, and who will render the service of preparing mimeographed lists of registrations for the convenience of those wishing to look up some of their friends.

The OIL WEEKLY, Published every Monday. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

THE OIL WEEKLY

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HOUSTON, TEXAS

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The Oil Man's Calendar

MAY 20–22	American Gas Association, Technical Section—Production Conference, New York.
27–31	American Petroleum Institute, Mid-Year Meeting, Ft. Worth, Texas.
30–31 June 1	National Oil Scouts and Land Man's Association, Hot Springs, Ark.
JUNE 1	Illinois-Indiana Petroleum Association, Robinson, Ill.
3– 6	National Association of Purchasing Agents, Oil Company Buyers' Group, Cincinnati.
20–21	Pennsylvania Grade Crude Oil Association, Bradford, Pa.
29	American Petroleum Institute, Illinois Basin Chapter, Evansville, Ind.
SEPT. 9–13	American Chemical Society, Detroit.
18–20	National Petroleum Association, Atlantic City, N. J.
OCT. 7–10	American Gas Association, Atlantic City, N. J.
7–11	National Safety Congress and Exposition, Chicago.
16–18	Independent Petroleum Association of America, Dallas.
31 Nov. 2	Texas Mid-Continent Oil & Gas Association, Ft. Worth.
NOV. 11–15	American Petroleum Institute, Chicago.

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Published every Monday. Single Copies 15 cents (Special Issues 50c). Subscription price: domestic and foreign, $2.00 a year; 2 years $3.00. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies. Advertising rates on application.

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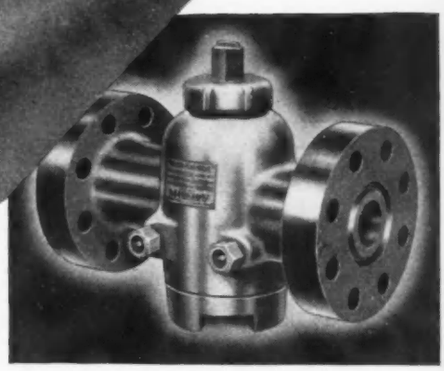
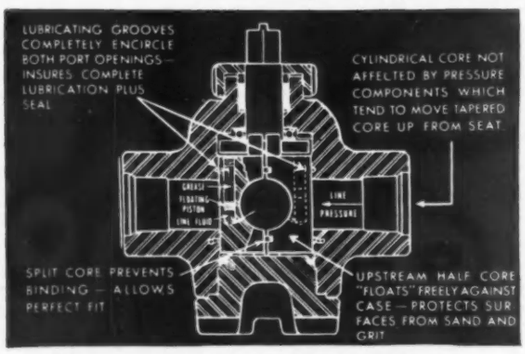


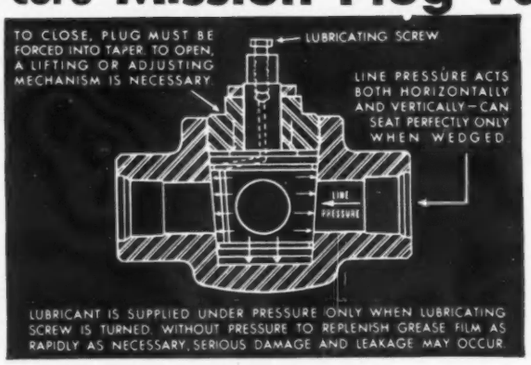
Test Pressures: 1,000 to 10,000 lbs. Tested on drilling rigs, flow lines and Christmas trees for 24 months without a failure.

Wedging is out—Have easy operation with a straight cylindrical core Mission Plug Valve


LUBRICATING GROOVES COMPLETELY ENCIRCLE BOTH PORT OPENINGS—INSURES COMPLETE LUBRICATION PLUS SEAL
CYLINDRICAL CORE NOT AFFECTED BY PRESSURE COMPONENTS WHICH TEND TO MOVE TAPERED CORE UP FROM SEAT
LINE PRESSURE
SPLIT CORE PREVENTS BINDING—ALLOWS PERFECT FIT
UPSTREAM HALF CORE "FLOATS" FREELY AGAINST CASE—PROTECTS SURFACES FROM SAND AND GRIT

MISSION AUTOMATIC "FULL-PORT" LUBRICATION AND CYLINDRICAL SPLIT CORE

Line pressure on two lubricating reservoirs automatically maintains constant supply of grease and complete seal around each port. Cylindrical split core seats perfectly—positively cannot wedge—opens easily. Split core permits a perfect fit.


TO CLOSE, PLUG MUST BE FORCED INTO TAPER. TO OPEN, A LIFTING OR ADJUSTING MECHANISM IS NECESSARY.
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Full details in The Oil Weekly Catalogue of 1940 and from oil well supply stores.

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THE OIL WEEKLY

MAY 20, 1940

VOLUME 97 NUMBER 11

The Week's Panorama

THE importance oil consumption assumes in active warfare has been demonstrated by the fierce air and land fighting of the past 10 days. On the other hand, the high percentage of losses of planes on both sides has been significant. The problem of obtaining and retaining sufficient planes may largely overshadow that of fueling those available. Certainly, the Allies so far have been more concerned about getting planes than about obtaining oils, as evidenced by their increased plane purchases and curtailed oil purchases from the united States.

• • • The oil industry is unimpressed by United States Department of Commerce figures showing that exports to Europe were 67 per cent greater in the first three months of 1940 than in the initial quarter of 1939. So far, this year has brought sharply curtailed exports of crude oil and all refined products except lubricants. The total value of exports has been comparatively large because of shipments of airplanes, metal goods, and so forth.

• • • Although the Allies have been remarkably careful in holding down war costs, they are prepared to spend heavily as the necessity unfolds. For British expenditures the sky is the limit, declared a government official. He said the government would not hesitate to adopt a compulsory lending plan if the present system of voluntary loans to the government fails.

• • • It is anticipated that the Federal Reserve Board index of industrial production may show some increase for May, as it has flattened out, following the steep decline of the early months of this year. The index probably averaged around 102 for April, compared with 103 in March, 109 in February, 119 in January, and an all-time high of 128 last December.

• • • Cotton farmers may become less prosperous customers of the oil business in consequence of the war, which has curtailed exports. Shipments are expected to be down materially in the 1940-1941 season, following a predicted total of about 6,000,000 bales for the current 1939-1940 season, which will end at the close of July. Exports averaged 7,086,500 bales annually in the years 1931-1936. The war has reduced shipments by limiting shipping facilities, curtailing civilian consumption, and making it necessary for belligerents to confine purchases largely to urgently essential goods.

• • • In the steady trend toward larger transport planes, the flying boats are closely approaching the size of the ship in which Columbus sailed the ocean blue. This trend means more gasoline consumption.

The great flying boats already are up to 43-ton, 72-passenger size; and a 55-ton, 3-deck ship of the air has been designed to carry 100 passengers and a ton of mail across the Atlantic in 18 hours, propelled 190 miles hourly by four 1500-horsepower engines.

Meanwhile, 100-ton flying boats are being planned. Even if forced down at sea, the huge flying ships can contend with rough water as well as many surface craft.

• • • The airships are becoming increasingly important competitor of the merchant marine in the overseas fast express and passenger trade, and eventually may largely displace the super liners, not only because of faster service but also because of possibilities of providing cheaper rates.

It has been stated that a fleet of 18 flying boats on a daily service of three planes a day would offer the same total passenger capacity per year as a super liner and that the planes would cost only $18,000,000, against $50,000,000 for the large ship.

• • • It is predicted that the next five years will bring development of 24-cylinder, 5000-horsepower aviation engines designed to operate on gasoline of 125 or higher octane rating, which the oil industry laboratories now are producing experimentally. The super-octane fuels are expected to furnish increased power and greater motor efficiency.

• • • In the first four months of 1940, production of automobiles was 24 per cent greater than in the corresponding months of 1939. The output of 1,758,445 units was exceeded previously only in the like periods of 1929 and 1937. In April, 1940, production was 26 per cent greater than that in April, 1939. Currently, however, there is some concern over increasing stocks of used cars.

• • • For operating its car for business and pleasure, the typical wage-earning, car-owning family spends $197.74 annually, it was revealed by a survey of 6366 families by the United States Bureau of Labor Statistics.

• • • The oil industry provided the railroads 8 per cent of their carload freight revenue in 1939. Of $246,813,742 paid to the carriers, $215,712,113 went for hauling refined products and $31,101,629 for crude oil and asphalt.

Photo by H. ARMSTRONG ROBERTS

"...America's Gift to the World"

An Outline of Oil

Panorama of Achievement that Symbolizes the American Industrial Epoch Suggested

By J. EDGAR PEW, Vice President, Sun Oil Company

J. EDGAR PEW

Has witnessed more than half a century of progress and development in the oil and gas industry and is outstanding among its leaders. From his broad experience and intimate association with the remarkable rise of the industry, he visualizes in oil a picture of American industrial accomplishment that as he says: "might well serve as a reminder of the dangers that inhere in irresponsible intrusions of enthusiastic theorists into affairs with which they have no practical acquaintance."

MR. WALLACE PRATT'S article, "Oil Field Development Is a Geological Enterprise," in THE OIL WEEKLY of April 18 deserves to be read, and then reread, by everybody in the oil business—not merely by those engaged in exploration and production, but by all who have the industry's future and welfare at heart. It moves one to wish that somebody with Mr. Pratt's talent for wise generalization along with accurate specification might give us a popular history of the American oil industry. Such a history as Mr. Pratt would write, without any of the over-wrought phasing and ballyhoo of the press agent and public-relations specialist, would, I think, be particularly timely just now when there is so much loose talk about governmental measures which point toward ultimate nationalization of the industry.

Mr. Pratt is a geologist and has been characteristically modest in reminding us of geology's service to the industy. A similarly moderate and convincing presentation of the whole story would be an effective antidote to the poisons that are spread by advocates of what might be called economic totalitarianism. It would certainly put potent weapons in the hands of those who are fighting for the salvation of free enterprise in this country—and wherever else in the world that ideal is still upheld.

The editor of THE OIL WEEKLY, in a letter inviting me to write the present contribution, observes: "A particularly important phase of this development is the high degree of cooperative spirit that exsits between the industry's technicians on the one hand and the makers of the industry's tools and equipment on the other. Present progress is attributable, in large part, to the ability of these two groups to push forward in close unison." I assume that I was invited to write something on this general subject because of my service for many years as chairman of the American Petroleum Institute's Committee on Standardization of Oil-Field Equipment. I can without any sacrifice of modesty suggest something of its importance to the industry, because, despite my long association with this work, my own contribution has been small; the fine cooperation between the industry and manufacturers of oil-country equipment has been responsible for accomplishments of the first importance.

I remember many years ago in thumbing over a Congressional Directory, I found listed among inter-governmental agencies at Washington, the International Screw Thread Commission. Like a good many other people, I wondered what that could mean. Inquiry developed that this commission represented a sort of machine-age League of Nations, dealing with the highly important business of making the world's

bolts, screws and nuts match each other, anywhere from Lhasa to Las Vegas. Well, the standardization program of the American oil industry has grown into a quite similar League of Nations, whose covenant contemplates the fullest possible uniformity in equipment material and construction practice in oil-country operation. Manufacturers of other countries advertise "A.P.I. Specifications." American engineers, drillers, constructors, pipeline specialists, geologists, geophysicists, and roughnecks — experts all—may be found in about all the oil fields of the world, very generally handling equipment built to these A.P.I. specifications. Just as American mass production has made our motor cars standard all over the world, so A.P.I. specifications have powerfully strengthened our traditional leadership of the world's oil industry. For that the chief measure of credit is due to the cooperative attitude of the industry and the equipment manufacturers with the movement for standardization and uniformity.

The benefits that have flowed from standardization are greater than might be realized in a casual consideration. In recent years, for instance, the development of improved materials, of particular alloys adapted to special uses, has made possible many advances in all the operations of the industry, not only in the oil fields, but in our transportation and refining processes. These have made for greater efficiency and economy all along the line. This industry started in America and has been characteristically American all the way.

A Unique Transportation System Cuts Cost

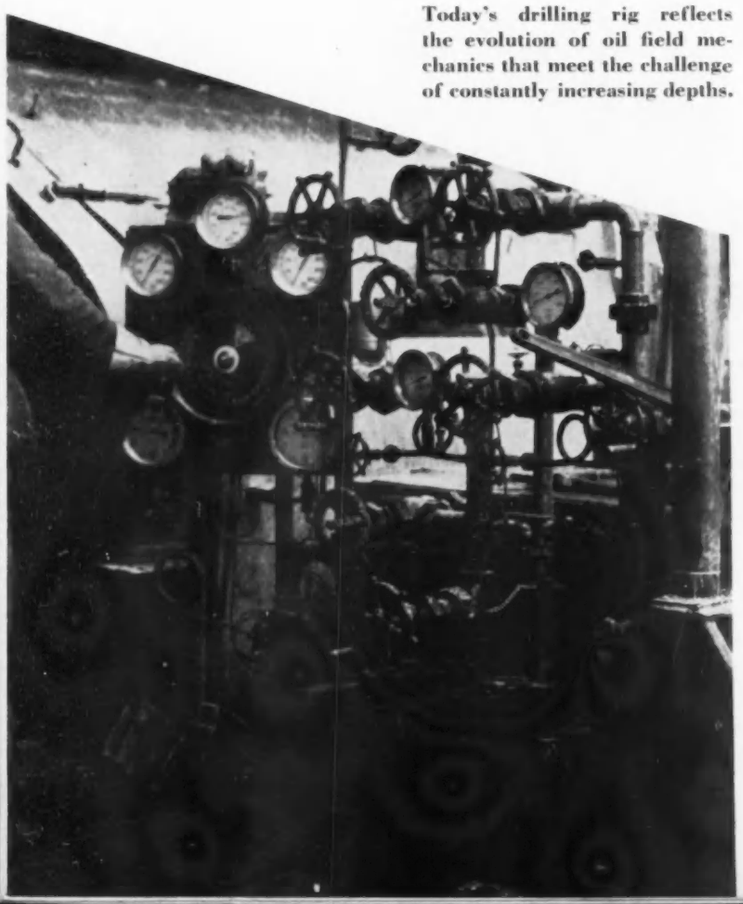
Take transportation, for instance. This is the only industry that ever devised and developed its own complete and unique transportation system and by means of that system so enormously reduced the costs of its products to the consumer. From ox carts hauling "rock oil" in barrels through the Pennsylvania mountains, we have progressed to the pipe line network covering our own continent and now extended wherever in the world oil is produced. The tanker fleets of the world constitute an impressive fraction of all waterborne tonnage; while the tank car and the tank truck perform their familiar services. Every one of these is the product of this industry's genius and imagination. Taken together, they have contributed more than we quite realize toward the universal availability, cheapness and service of petroleum products.

We think of gasoline as the fuel which made the motor age possible, but we too seldom emphasize the fact that the machine age would have been impossible without petroleum's lubricants. Few people have any conception of the number and importance of products that come from a barrel of petroleum; even less do they realize in how many industrial and chemical processes it is essential. Only a little while ago, petroleum, to most people, simply meant kerosene; now to most people it merely means gasoline.

Of no other great industry can it be so truly said that it has been America's gift to the world. In nearly all other countries, petroleum, to a greater or less extent, has been taken under the wing of government. Its spectacular development here must be attributed largely to the fact that it has thus far been from serious governmental interferences. The story of its services in the first World War and the fact of its readiness with ample reserves and adequate equipment to repeat such service if necessity should again arise, is another phase that deserves more emphasis and better understanding. Its realization of economic and social responsibility has been shown in all departments of activity. In its relations with labor it has been pointed to as a model, while in devising and giving effect to practical measures for conserving natural resources through cooperation with the state governments, it has won recognition for intelligent leadership. In the field of scientific research, it recently was declared by Fortune magazine, after a thorough survey, to hold first place among American industries.

I am sketching in broad outline a suggestion of the picture that I should like to see elaborated in detail by somebody who could bring to the task the talents which Mr. Pratt has proved in his recounting of the part which geology has played in the period of the industry's recent development. At a time when almost every day brings some new proposal for governmental controls and bureaucratic regulations, such a panorama as I am crudely sketching might well serve as a reminder of the dangers that inhere in irresponsible intrusions of enthusiastic theorists into affairs with which they have no practical acquaintance.

I nominate Mr. Pratt as the artist to do for us this panorama in oil.



Today's drilling rig reflects the evolution of oil field mechanics that meet the challenge of constantly increasing depths.

Balancing Unequal Central Power Loads

Pumping Series Article No. 42

PRODUCERS relying upon central powers for pumping their wells in the East Texas and similarly driven fields find that the switch from flowing to pumping wells does not occur all over the lease at once, but is a gradual transition, beginning with the locations nearest the source of the water drive if depletion is caused by this effect, or toward the edge of the field if thinning of the sand causes the change-over.

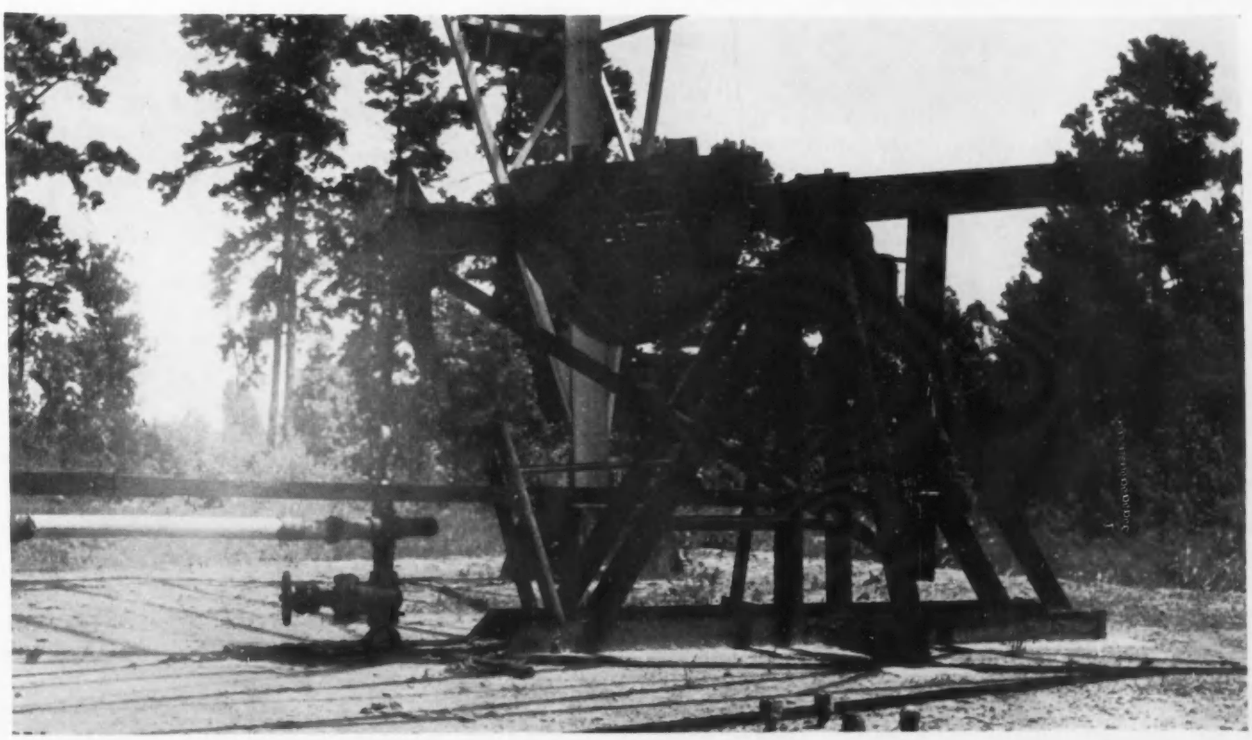
Where the lease is fairly wide athwart the field, and where rigid proration holds production to a small percentage of the well's potential, the traverse of the line of demarkation across the lease may require months, or even years, before the last well has followed the first in going on the beam.

Under such conditions, it is necessary to balance the central power with "dummies," "straw jacks," or "lefties," as the counterbalances are variously known in different fields. These counterbalances are tied in to the power as a well would be, with the load of lifting the counterbalance weight spaced to offset the return stroke of the rods in an oppositely situated well. Frequently one counterweight will carry two wells, and in some instances as many as four, without imposing excessive bearing or rod-line loads.

One producer in the East Texas field utilizes the well pumping jack and its normal rod line as counterbalance. The jack counterweight, instead of resting on the end of the beam away from the horsehead, is moved to a position between bearing and head, and clamped where the lifting effect required would equal that of a string of rods in the well at which the jack is situated. This plan requires no additional equipment, and even if operated for a long period, would call for nothing more serious than a possible renewal of bearings when the switch from counterbalance to pumping unit was finally effected.

Where a counterbalance is used, consideration of the principles of mechanics involved can save much power, and permit the installation of a smoothly act-

Pumping jack at still flowing well carries counterweight on rod end and serves as "dummy" for equalizing load on power against time when pumping load will be imposed.



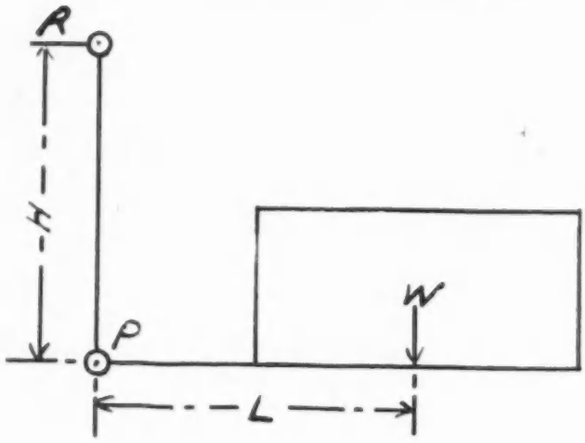


Diagram of effective force application on typical rod-line counterbalance system.

W—Effective center of weight
L—Effective lever arm
P—Pivotal point or hinge
R—Rod-line connection
H—Rod-line lever arm

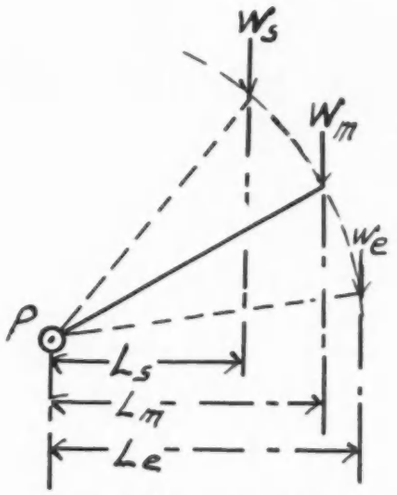


Diagram to show unequal forces set up with canted type of counterbalance.

W_s—Weight at start of cycle.
W_m—Midcycle weight position.
W_e—Weight at stroke end.
L_s, L_m, L_e—Effective lever arms corresponding to like weight positions.
P—Pivot or hinge of counterbalance.

ing, effective equalizer. By referring to the diagram of effective forces, it is evident that the counterbalance effect produced by a weight "W" on a platform is equal to the product of mass, in pounds, times effective lever arm, or expressed as an equation $W \times L = Force$, in foot pounds. Thus a weight of one ton, acting at an effective lever arm of 4 feet, would exert a force of 8000-foot pounds, and would require a like force applied at "R," the point of rod line connection, to give a state of equilibrium.

By making the weight "W" adjustable laterally on the platform, it is possible to secure exactly the counterbalancing effect desired, at less expenditure of power and less bearing wear than were the weight increased. Since the actual lever arm from center of weight to pivotal or hinge point is **not** the distance between these two points, but is instead the horizontal distance between the perpendiculars dropped from these points, it is evident that maximum effective force throughout the cycle can be obtained only when the platform oscillated or reciprocates through an arc, the center or midpoint of which lies on a horizontal line through the pivot point "P."

Frequently, to avoid setting the "dummy" on an elevated base, the platform is observed to be canted so that the midpoint of oscillation may come as much as 30 degrees from the horizontal. The sketch illustrating this, and marking the two ends and center of a stroke cycle, show that the three equations of force are:

$W_s \times L_s = F_s$	$2000 \times 2.49 = 4980$ foot pounds
$W_m \times L_m = F_m$	$2000 \times 3.46 = 6920$ foot pounds
$W_e \times L_e = F_e$	$2000 \times 3.95 = 7900$ foot pounds

in a system where the weight is equal to one ton, and the lever arm equal to four feet, with an arc of action of three feet, or a swing of approximately 43 degrees from end to end of stroke. This shows that the counterbalancing force varies as much as 58 percent during a stroke, and is greatest at the bottom of the swing. These figures, for simplification, have been derived without taking into effect the angularity of the counterweight at elevated positions, which would increase the spread between initial and final values.

For the same system, with equal arc of travel, and the midpoint on the horizontal through the pivotal point, the two ends are equal, and are

$W_s \times L_s = F_s$	$2000 \times 3.72 = 7440$ foot pounds
$W_m \times L_m = F_m$	$2000 \times 4.00 = 8000$ foot pounds

showing a variation of less than 8 percent in value of effective counter force during the cycle, and with the maximum effort at the middle of the stroke.

With the effective stroke of the rod-line end of the counterbalance system limited to the stroke of the eccentric on the central power (unless a stroke multiplier be inserted in the line) shifting of the point of connection between rod line and upright lever arm, "H" in the sketch, permits the desired pull to be obtained without varying the mass of the weight on the platform. This adjustment of values, within limits, dictated by the desirable arc through which the counterweight is to be swung, affords additional leeway for securing the ideal condition of loading on a central power, where the entire cycle of rotation requires a uniform input of power from the prime mover.

In the counterweight system illustrated, in which a discarded pump casting serves to give the desired platform loading, the pivot bearings are unique and require little attention beside occasional lubrication. The shaft which forms the pivot for the platform is carried in two babbitted bearings, open at the top, and sealed at the outer ends. The bearing shells are made of heavy pipe, welded to flat plates to afford space for bolts to the concrete foundations, in which babbitt has been poured to surround the shaft as high as the cut-out section at the top. At the outer ends,

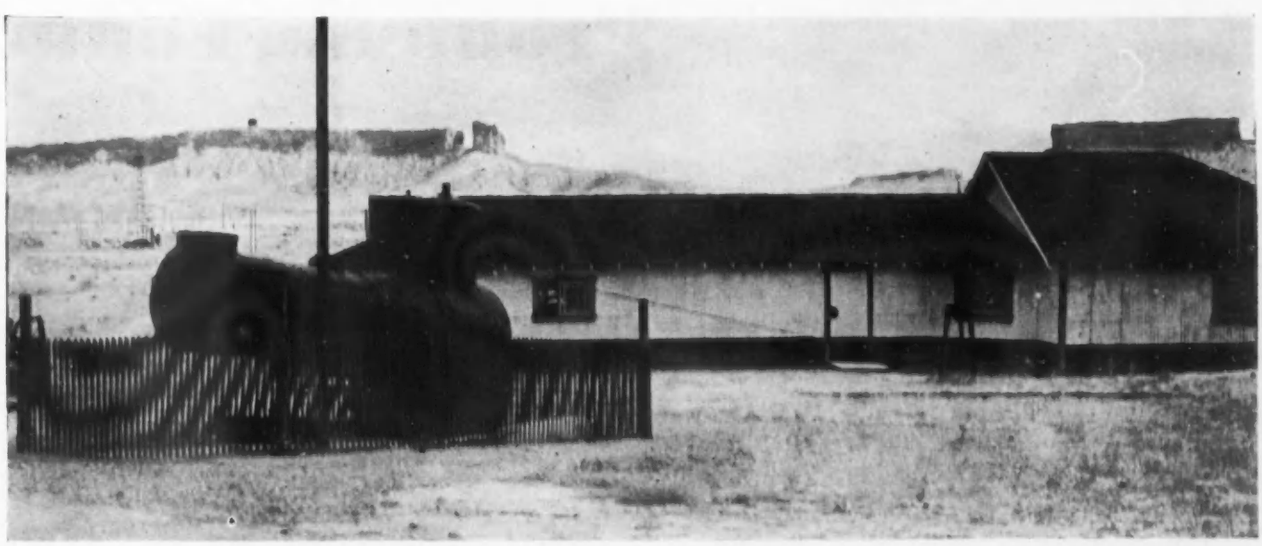
Discarded pump casting serves as counterweight on "dummy" used to equalize rotative load on central pumping power.

in which the babbitt has been blanked off at a position perhaps one third the height of the shaft, an oil reservoir is formed in which waste serves to assure a gradual feed of lubricant to the shaft as it turns. The same shoulder of babbitt at the ends of the shaft serve to restrain it and prevent lateral motion and possible contact between platform members and concrete pedestals.

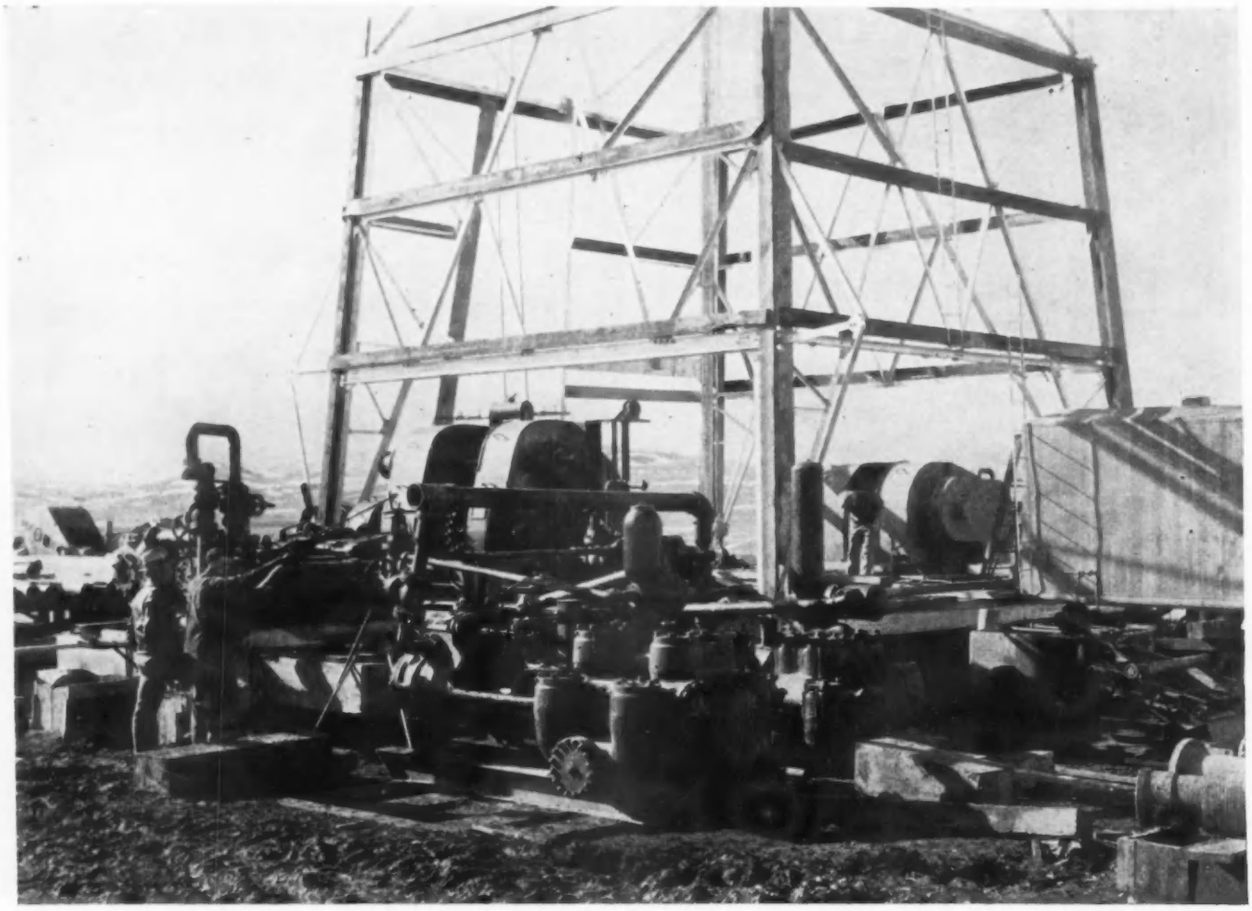
Instead of using rock, or junk-filled balancing units for powers on pumping wells in the Salt Creek field at Midwest, Wyoming, Sinclair Prairie Oil Company sets discarded boilers and attaches them to short rod lines at central powers requiring such balancing objects. A concrete foundation is poured at the location to support the weight of the boiler, and the installation is made upon a cross rod that forms the bearing for the weight.

The boiler is installed on the foundation with the firebox door and steam dome nearest the band-wheel power so that a cable may be looped around the dome at the point which will secure the proper leverage and weight necessary to balance the power on that particular side. If a greater weight is required, or more tension is necessary, the cable is readjusted downward which shortens the lever, and increases the power required to raise the weight through its arc.

At powers where live stock and children might become injured by the moving object, a substantial picket fence is erected and painted to enhance the appearance of the property. The boiler itself is painted regularly for the same reason. Due to the height that the cable is placed around the steam dome, it is necessary to install a hold-down between the unit and the eccentric pulls, varying in distance to the distance the boiler is from the power, and the condition of the ground surface.



Sinclair Prairie Oil Company uses discarded boilers as balances for central pumping powers in Salt Creek field, Wyoming.



Depths in the Turner Valley field vary from 6374 to 8667 feet and drilling is considered the hardest in the world. A completed well costs approximately $160,000. Heavy-type rotaries are used. —Photo by H. Pollard, Calgary

Some of World's Most Problems Found

By R. W. HARRISON and
W. F. KNODE
Parker, Foran, Knode
& Boatright, Consulting
Petroleum and Natural Gas
Engineers

SOME of the world's hardest drilling and most difficult producing problems are to be found at Turner Valley, Canada, the only major producing area of the western hemisphere lying north of the United States. Therefore, the drilling and producing practices employed in the field are of interest to operators that may be confronted with similar difficulties.

Turner Valley is an important source of production, during 1939 producing 7,456,000 barrels of oil, which brought its total cumulative output to 27,478,850 barrels.

Turner Valley development in the Madison (Paleozoic) limestone has proceeded at an orderly rate since the first oil producer was completed in June, 1936. Prior to that, all development was in the gas-cap area from where considerable naphtha and gas were produced for several years. At the close of 1939, 96 oil wells were producing and 19 drilling or in process of completion.

Total depths in the oil area vary from 6374 to 8667 feet, with current completions averaging approximately 8000 feet. The deepest well drilled was a dry hole at 10,290 feet.

Approximately 4000 acres in Turner Valley have been developed, exclusive of about 10,000 acres in the gas-cap area. It is estimated that the oil portion of the field will be fully developed by 400 wells, and evidence indicates that an average ultimate recovery of 17,000 barrels per acre may be expected.

The present average 24-hour,

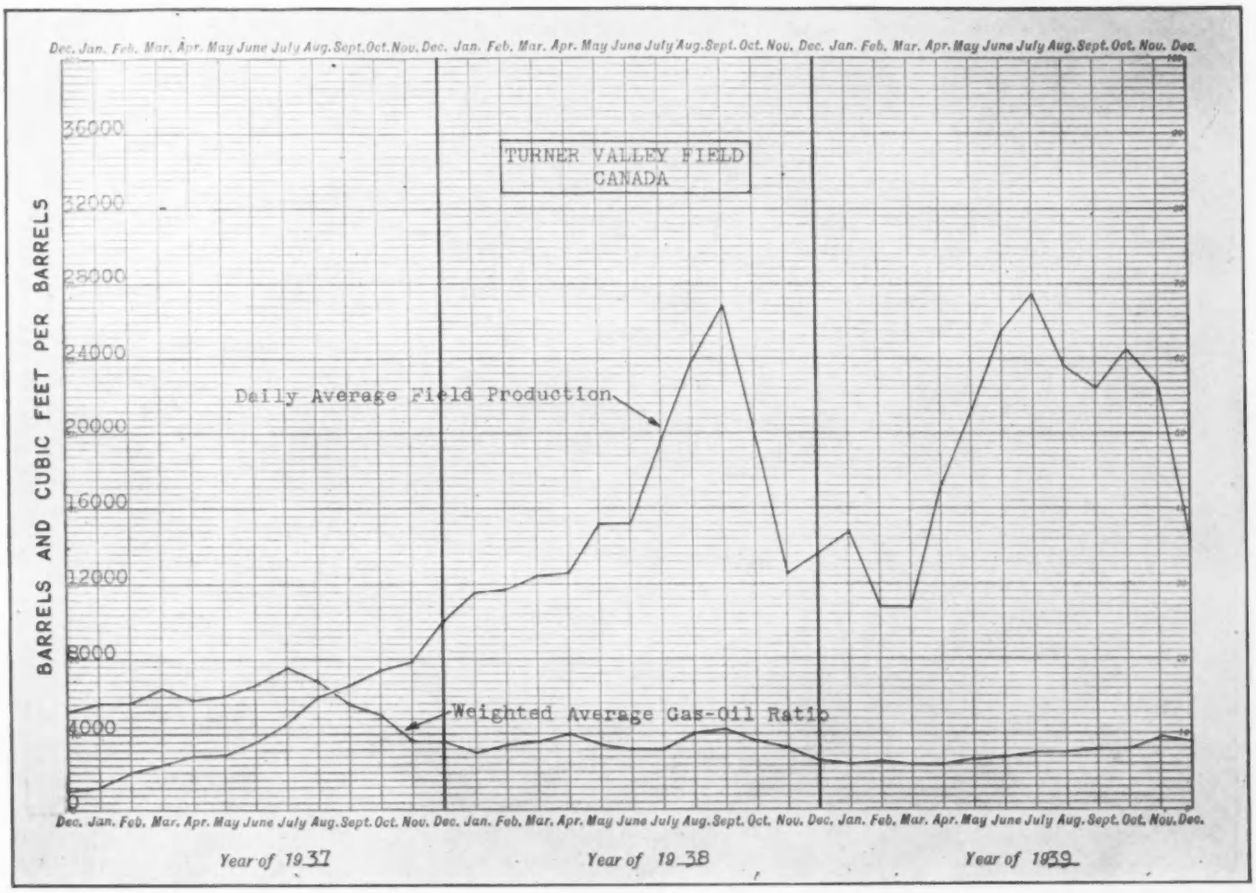


FIGURE 1
Turner Valley gas-oil ratios range from 650 to 20,000 cubic feet per barrel with an average as indicated on the curve.

Difficult Operating at Turner Valley

closed-in bottom-hole pressure is 1176 pounds per square inch at —2200 feet datum. The bottom-hole temperature ranges from 125° to 178°. The sub-normal pressure makes it necessary to prevent wells from loading up with fluid as they will easily "die."

Porosity and permeability of the productive horizons are judged to be low, based on flow characteristics of the wells, acidizing pressures and other factors. No conclusive tests have been made, however, because of the difficulty in obtaining cores in the porous zones.

There are two distinct pay zones in the lime, referred to as the "Upper Porous" and the "Lower Porous." Both vary in thickness, porosity and permeability between wells. A definite horizon, the Black lime, marks the base of the possible productive zones, as now known, and is usually penetrated some 10 feet before drilling is stopped.

The Upper Porous productive zone will average 95 feet in thickness, the Lower Porous 75 feet. Most wells find both zones present but there are cases where one or the other is almost completely missing. Average porosity, as determined from drill cuttings, is 5 to 10 percent.

Two dry holes drilled on the west flank, near the south end of the field, have found water but there is no evidence of a concerted water drive. The producing energy is gas in solution. This, together with the sub-normal pressure condition, indicates an early turn to artificial producing methods. A few wells are now being gas-lifted, but it is believed to be necessary only because of locally low permeability and consequent low fluid velocities.

Gas/oil ratios range from 650 to 20,000 cubic feet per barrel, with an average as indicated on the curve in Figure 1. They vary widely in the same well with different rates of production and, for the

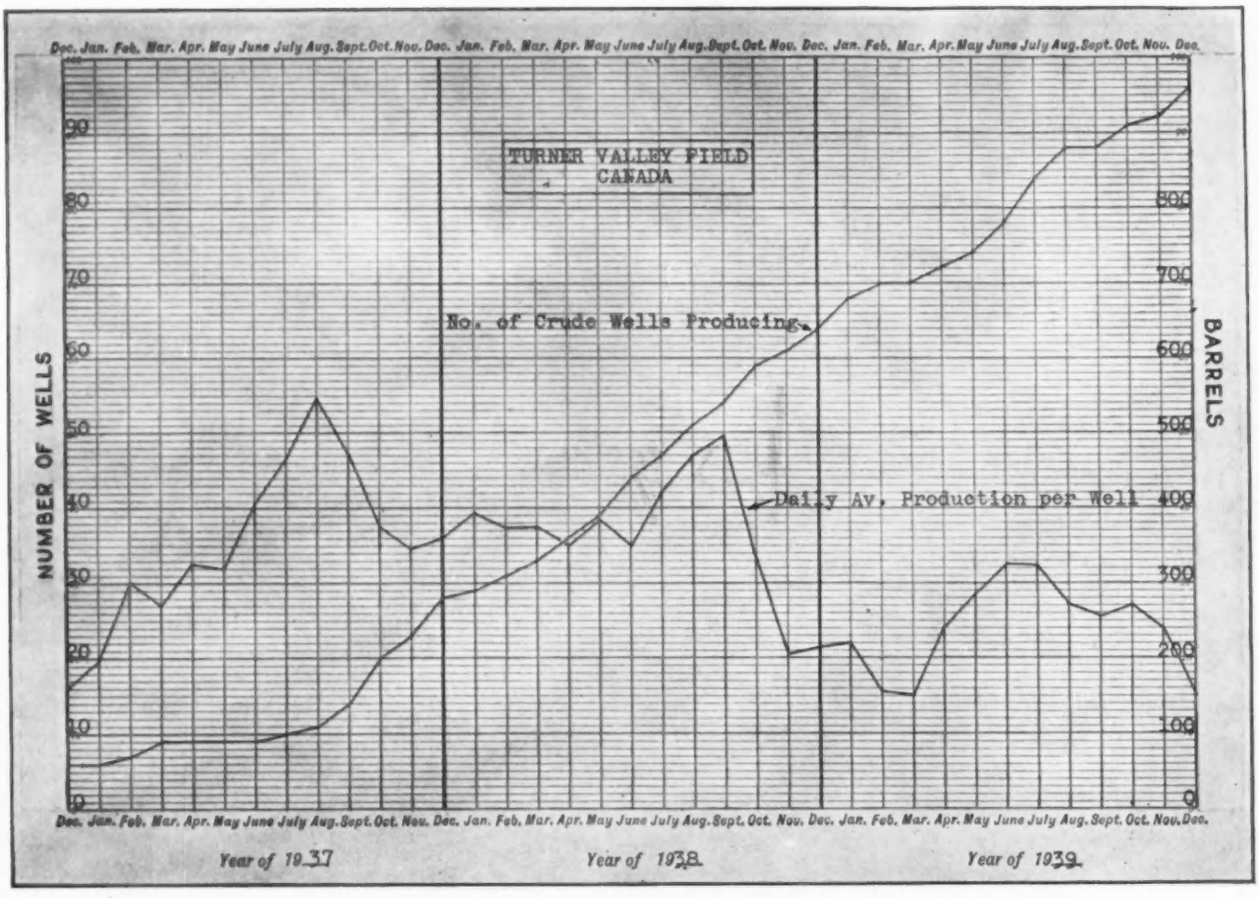


FIGURE 2
At the close of 1939 there were 96 oil wells producing in the Turner Valley field and 19 drilling or in process of completion. The curve shows trend of producing wells and daily average production.

most part, decrease with a decrease in flow. This further substantiates the theory that solution gas is the principal source of energy.

The gas cap, if completely shut in, would have an expansive effect and no doubt would lengthen the flowing life of the field. Several oil wells near the gas-oil contact have gradually gone to gas and a few gas wells near the contact have begun producing oil, indicating a continuous horizon.

At the close of 1939, the field had a total 24-hour, one-inch choke potential of 70,500 barrels, as determined by the method previously described. The individual well potentials ranged from 20 barrels to 2536 barrels daily. A cumulative total of 15,053,306 barrels of oil, exclusive of earlier naphtha, had been produced to that time.

An average Turner Valley well will cost approximately $160,000 to turn into the tanks. The expensive, hard drilling is the principal reason, but sales tax and import duties on the U. S. manufactured drilling and producing equipment is no small factor. War-time foreign-exchange rates have further added to the cost of U. S. purchases.

Turner Valley crude brings $1.14 per barrel for 40°-API-gravity oil, with a 2-cent differential for each degree of gravity above and below.

Although Turner Valley is the only major oil producing area in Canada, its market is limited. Producers are unable to compete with Illinois crude in the Middle East because of rail rates. Crude, and products of refineries in the city of Calgary, are shipped by rail to points in the Provinces of Alberta, Saskatchewan and Western Manitoba. Practically all the oil first goes to Calgary through a 50-mile pipe line.

Development in Turner Valley should continue at about the present pace and field production is expected to increase at the normal rate for any limited market.

The general practice is to drill a 9-inch hole to 900 feet, enlarging it with a hole-opening bit to accommodate the 13⅜-inch O.D. surface pipe. A 9-inch hole is then drilled to the "top of the lime" where 7-inch O.D., 24-pound, Grade J-55, API casing is cemented with 500 sacks. A 6⅛-inch hole is drilled through the lime to the total depth. Where 8000 feet is the total depth, the lime is reached at about 7500 feet.

It is believed that the hardest drilling in the world is encountered in the Turner Valley field. This is substantiated by the fact that an average of 166 nine-inch rock bits are used to drill 7500 feet to the lime and thirty-seven 6⅛-inch bits to drill the 450 to 500 feet in the lime. The time required from spudding to the cementing of the oil string is from 4 to 5 months, with an additional 2 or 3 weeks to drill the lime section and complete the well.

Drilling equipment, typical of many rigs now in use in Turner Valley, includes a 136-foot by 26-foot-base API steel derrick, with a rating of 637,000 pounds. The derrick is set on concrete corners 4 feet above ground as no steel substructures are used. The floor supports are wood sills and the engine foundation is concrete.

The four-speed drawworks, with a 9-inch drum shaft and 8-1/16-inch

A section of the Turner Valley field showing surface conditions.
—Photo by H. Pollard, Calgary

line and jack shafts, is driven by a 12-inch by 12-inch horizontal or vertical, twin, steam engine. An 80-inch 5-sheave traveling block and 6-sheave, 300-ton crown block are used with 1⅛-inch drilling line. One 20-inch mud pump is used, with an 18-inch unit acting as a stand-by. The power plant consists of three 125-horsepower, 250-pound working pressure boilers and all necessary auxiliary equipment housed in a wood or sheet-iron building together with the water storage tank.

A mud vibrating screen is powered either by electric motor or steam turbine. The mud pit is boxed-in, approximately 16 feet by 20 feet by 8 feet deep with a small settling compartment. It is enclosed in a shed with the pumps, the shed forming a part of the wood or sheet-iron enclosure that houses all the machinery and the lower part of the derrick, as a protection against sub-zero temperatures.

When individual rotary table drives are employed, a 7-inch by 7¾-inch vertical steam engine with two-speed gear box is used in conjunction with an automatic rotary feed control.

Most wells are drilled with 4½-inch O.D., 16.60-pound API, Grade D, seamless, interior-upset drill pipe down to the casing point. A string of 3½-inch O.D., 13.30-pound drill pipe, of same specifications, is used for drilling-in.

Because of the solid, hard walls of the hole and control of the drill-

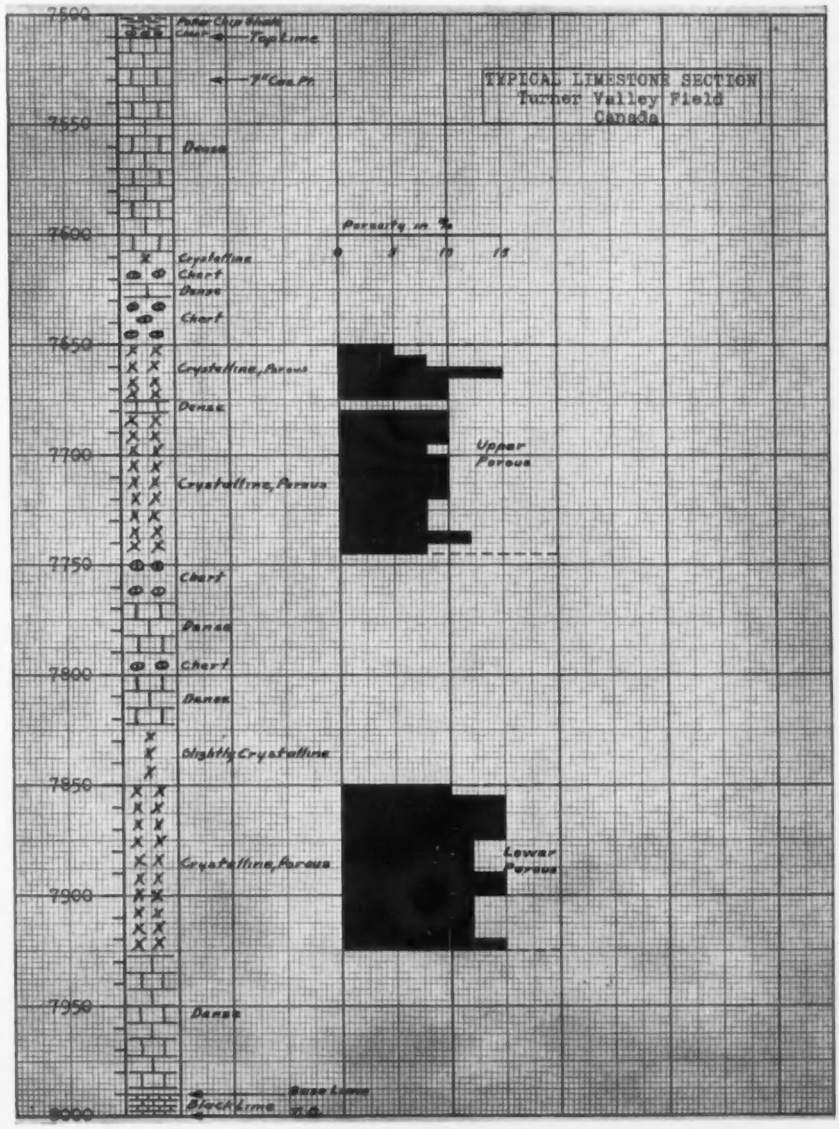
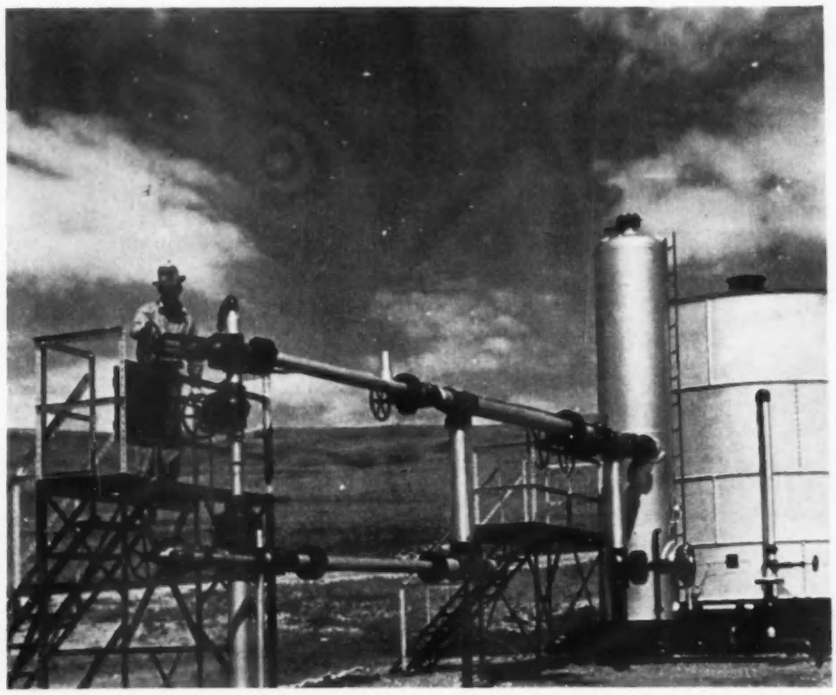


FIGURE 3

FIGURE 4

At right illustrates the older system of hooking-up Xmas tree and separator at Turner Valley.



ing speeds, twist-offs and fishing jobs are infrequent. When they do occur they are seldom serious. The greatest drilling hazard is the possibility of crooked holes due to the extreme formational dip, which reaches 45° in the producing horizon with even greater dips in the upper, highly folded strata.

Above 3000 feet, rotary table speeds vary from 600 to 700 revolutions per minute, with from ½ to 1½ points weight carried on the bit. Below this point the rotating speeds range from 200 to 400 revolutions per minute with 2 to 3 points weight. This has been the practice in the south end of the field where formational dips are not as steep. Near the north end, the dips increase and slower rotating speeds are expected to result as development there proceeds.

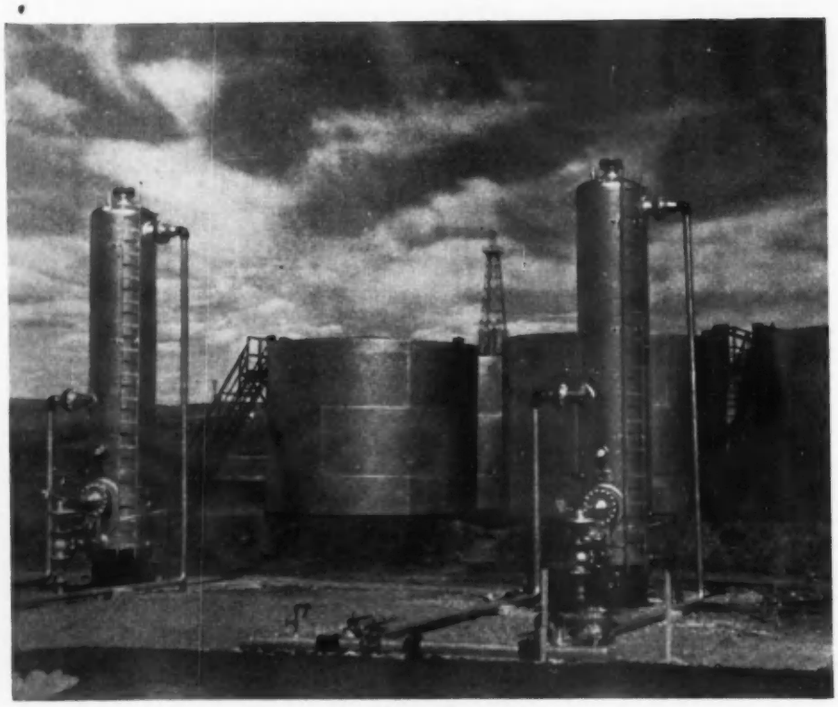


FIGURE 5

At left shows the more recent method of separator hook-up at Turner Valley.

During drilling, above the lime, little attention is given the mud characteristics as no horizon penetrated offers blow-out or excessive pressure hazards. Blow-out preventers and drilling valves are not used.

Completion Work

When drilling-in, below the casing, many operators use 31° API gravity fuel oil bottoms as a circulating medium, although one large company uses a pure aquagel mud. The sub-normal formation pressures in the pay zone necessitates precaution being taken to prevent pores from becoming clogged with finely-ground drill cuttings or mud. Although not in use at present, it is believed that the pressure-drilling method of completion would prove to be ideally suited to Turner Valley conditions.

Most wells are kicked-off and tested through tubing and Christmas tree before acidizing. Gas, furnished either by compressor or a high-pressure well, at 800 to 1000 pounds per square inch, is introduced into the circulating fluid at the well head, usually in slugs, and pumping continued until the fluid column has been aerated enough to allow the well to begin flow. The pumps are then shut off and gas continued to be introduced into the tubing until the well is definitely on its own. Following a preliminary production test the well is killed with its own oil and acidized.

No standard acidization procedure has been established as treatments have ranged from 3000 gallons to 40,000 gallons. Many operators do not attempt to control the flow of acid so that the upper and lower zones may be treated separately, while others do so only by raising or lowering tubing to just opposite the particular zone desired. The use of packers, practiced to some extent, is the most dependable method to insure the adequate treating of each zone separately. The variation in porosity and permeability between zones in the same well makes individual zone treatment particularly desirable. The rather thick, impervious lime between zones offers an ideal packer point. After acidization of one zone, when done separately, the

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well is kicked-off and cleaned before treating the second. Without exception, the wells are improved by acidization.

To facilitate cleaning the well after acidizing, a rather complicated system of valves and bypasses is sometimes made a permanent part of the well and separator hook-up. Although this is quite convenient at the time, it is expensive and practically of no further use. The system is a carry-over from the earlier days of gas and naphtha development higher on the structure. More modern operators have modified this considerably, however. Figures 4 and 5 illustrate the two general practices.

Christmas trees are usually 4000-pound test, 2000-pound working pressure, with 3-inch valves and fittings, although 2-inch trees are coming into use to some extent. Separators are all 500-pound working pressure. Stock tanks are 500 or 1000 barrels capacity with a definite trend to welded construction.

Tubing is either 2½-inch, 6.50-pound or 3-inch, 9.30-pound, Grade J-55, API, external upset. Many operators prefer 3-inch because of paraffin accumulation but 2½-inch is believed to be better adapted to the size and flow characteristics of most wells.

Each tank and separator battery requires a low-pressure boiler, usually 30-horsepower, operating at 20 pounds, for heating oil and steaming separator and other connections in winter.

The crude produced will average 43.5° API gravity with a sulphur content of 0.3 to 0.45 percent which does not cause severe corrosion.

A most difficult operating problem is the extreme cold. Frost penetrates to about 6 feet and all lines that are not heated are buried to this depth. Oil is heated to about 55° F. before running to the pipe line. Practically no water is produced, eliminating a potentially difficult problem in these severe temperatures.

Paraffin accumulation in tubing is a serious problem, requiring constant attention. In severe cases it has completely shut off the flow of a well. Recently, when one well was cleaned 6 weeks after a previous scraping, the opening left in the tubing was so small that a ¼-inch mercury-weighted pipe could not be spudded through it. When finally cleared, the paraffin was found to have accumulated to a depth of 3300 feet. The greatest difficulty is had during the period of low allowables.

Handling Paraffin

One effective means of combating this nuisance is to blow the well down through wide-open connections for about one hour, at weekly intervals. Transfer of the higher casing pressure to the tubing before blowing-down is helpful, as the velocity of flow is increased considerably by the greater pressure-drop. The high-velocity flow cuts into the surface crust of the accumulation, allowing the softer paraffin beneath to be readily blown out. In addition to this, a scraper is run once each month. If the paraffin is allowed to set and become hardened it may result in an expensive tubing job or at least require several days' work with the scraper.

Paraffin solvent is used but the more common practice is to blow the well and run a scraper to keep the tubing clean.

Many companies in Turner Valley own but one well, necessitating a complete production set-up and crew of gaugers for each 40-acre lease. This increases lifting costs considerably. The two larger operators, however, group their separators and stock tanks into central batteries where convenient.

Production Control

Production control is maintained by the Alberta Petroleum & Natural Gas Conservation Board. Rules are set out to prevent the drilling of crooked holes, a complete directional survey being required to the total depth. A set of samples must be saved for the government geologist from the top of the hole down, and a minimum of 10 feet of core cut in each of the porous zones. The Upper Porous zone must be tested before drilling into the Lower Porous if the top of the lime is reached at a datum of —4000 feet or lower.

Potentials are taken through a 1-inch choke, 1 foot long, for a period of 6 hours. If the flow during the sixth hour varies less than 3 percent from the fifth hour flow, then the 24-hour potential is determined by multiplying the sixth hour production by 24. Otherwise, the test is continued until the difference between two consecutive hours is 3 percent or less and the last hour flow is then used to determine the potential. Each well must be tested individually.

The field outlet varies widely from the summer peak to the winter low as it is determined by refinery nominations. During 1939 it averaged 19,672 barrels daily. It is divided into four equal parts, to be allocated to the individual wells on the basis of potential, bottom-hole pressure, gas/oil ratio, and acreage. Each well receives its pro-rata share, of the 25 percent allotted to each of the four factors, as its individual characteristics bear to the total for all wells. The fixed spacing is 40 acres per well but some few are on smaller tracts, hence the acreage factor.

The maximum permissible gas/oil ratio is 31,000 cubic feet per barrel. When this is exceeded the well is classified as a gas well and its flow restricted, as with other gas wells, to not more than the equivalent of the maximum displacement of the largest oil well allowable, but not to exceed 25 percent of its calculated open-flow capacity. The total flow from the gas-cap is limited to market and operating requirements.

The conservation board maintains a field crew of engineers who witness all potential and gas/oil ratio tests. In addition, they take bottom-hole pressures with the government-owned bomb and make routine checks on orifice meters and gas and oil production reports.

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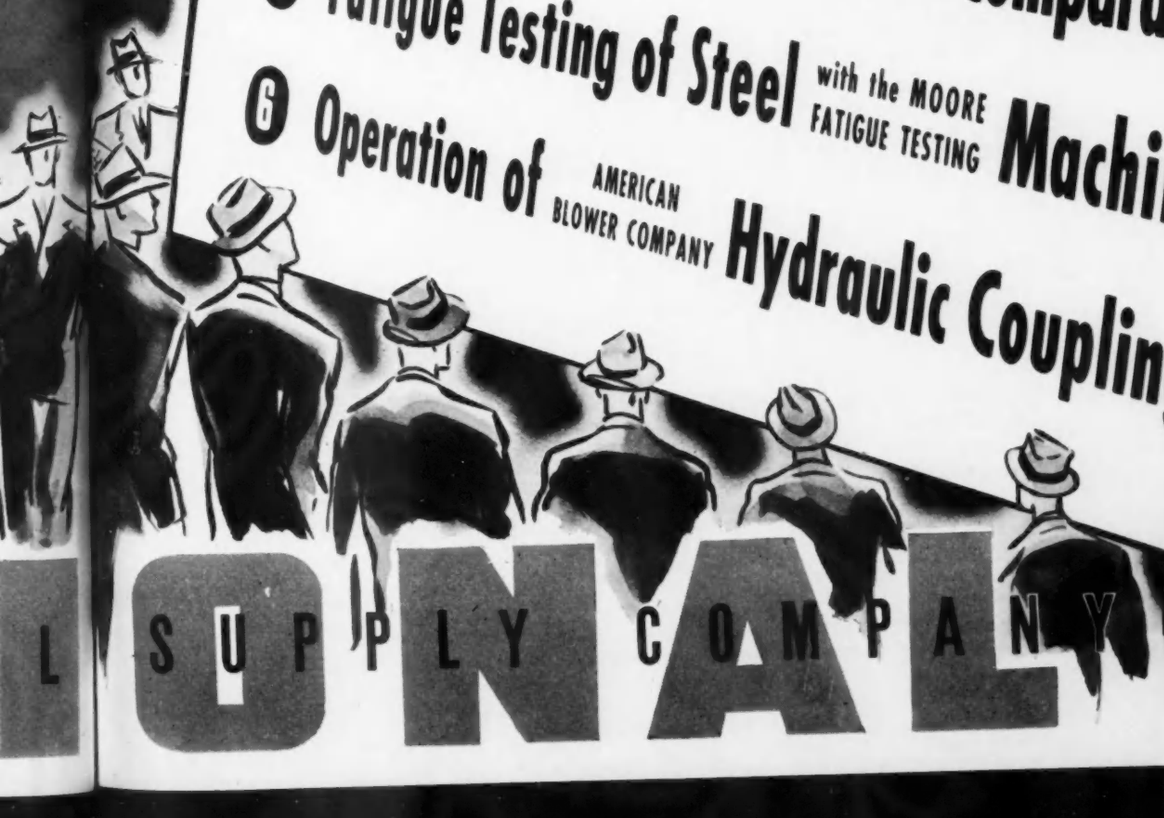

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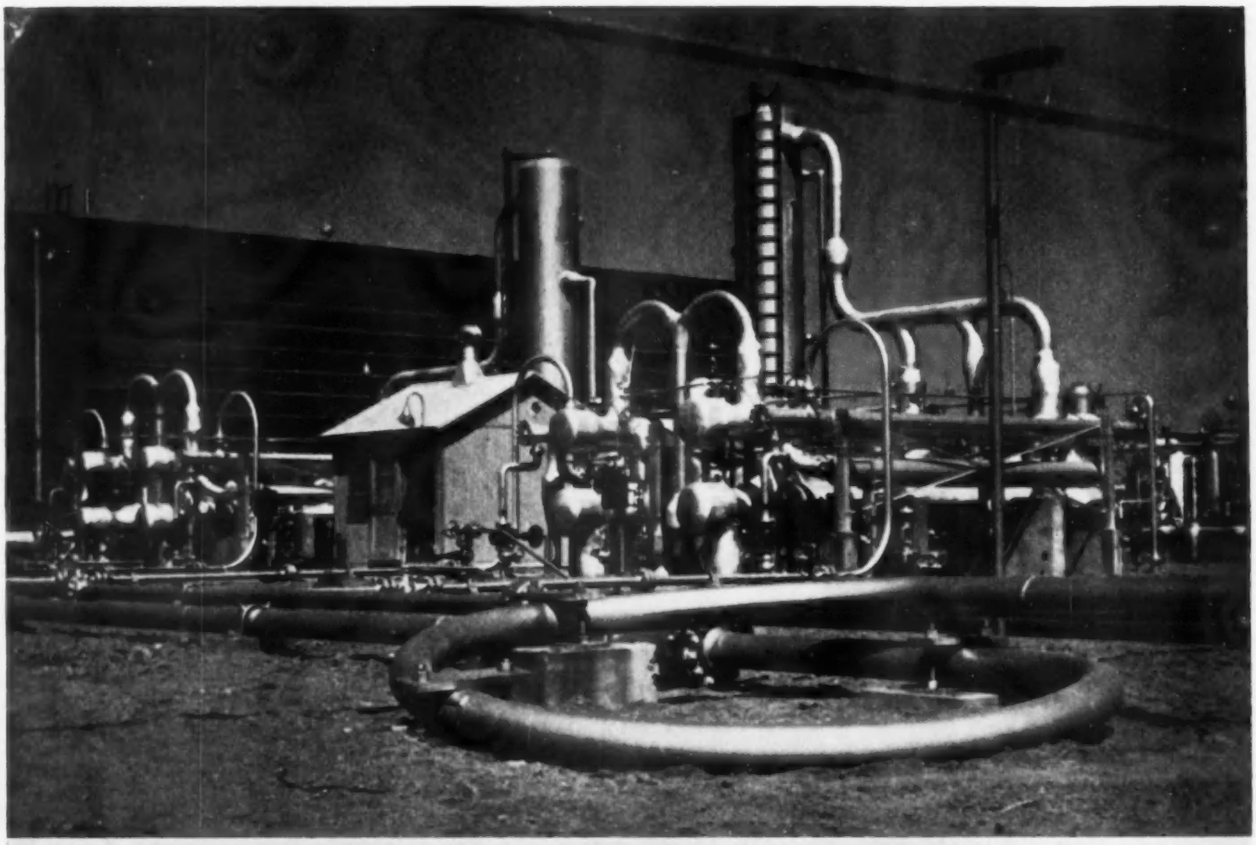


Abnormal behavior of heavier hydrocarbon gases under high pressure and temperature is partly responsible for recycling growth.

Deviation of Natural Gas From Boyle's Law

By FRANK H. DOTTERWEICH
Associate Professor, Natural Gas Engineering
Texas College of Arts and Industries, Kingsville, Texas

ANY gas which gives a pressure-volume relationship in agreement with the fundamental gas equation $PV = NRT$ is called an ideal or perfect gas. Some gases approach the qualities of a perfect gas more so than others, but in all cases there is a deviation from the relationship that $PV =$ a constant. This deviation becomes more pronounced at low temperatures and high pressures, and for gas measurement under such conditions the equation of Van Der Waal[1] may be used.

As previously stated, at normal conditions of temperature and pressure, Boyle's law may be used without the introduction of appreciable error. With increasing pressures, correction factors must be applied if gas measurements are to be satisfactory. Some gases are not compressed as much as Boyle's law indicates at high pressures; other gases occupy a smaller volume than this law would indicate, and in this classification natural gas is included.

When a given volume of methane, measured at a base pressure and temperature, is compressed, Hamline, Kvalines and Gaddy[2] have shown that as the pressure is increased, Figure 1, up to 150 atmospheres the gas is supercompressible. Supercompressibility

BAKER
SAVE A WELL
CEMENT RETAINER

"For Friendly Service, and Dependable Products, Specify BAKER."

BAKER
CEMENT RETAINER

CASE STUDY NO. 406

PROBLEM: To squeeze off lower wet sand and protect upper oil zone

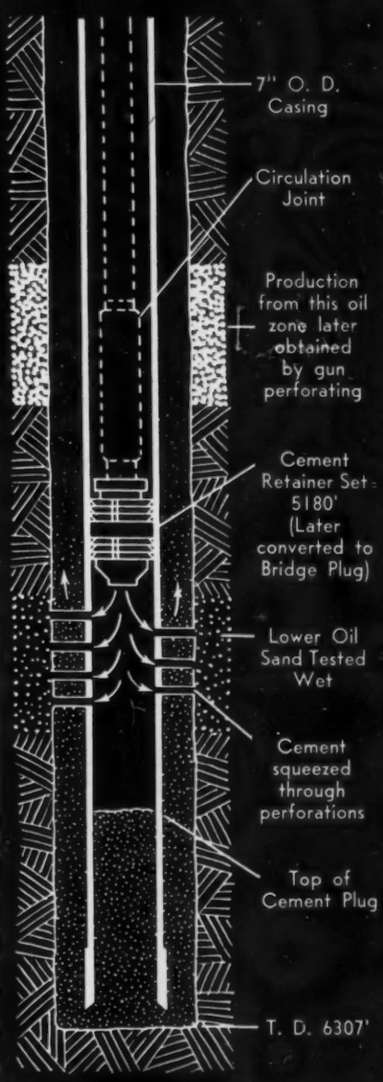
METHOD: Perform squeeze cement job with Baker Cement Retainer and then convert Retainer to Casing Bridge Plug

RESULT: Wet zone completely shut off; upper zone produced with no water

• DETAILS •

Field: Golden Meadows, La.
Depth of Well: 6307'
Depth Retainer Set: 5180'
Breakdown Pressure: 1400#
Final Pressure: 2500#

Quantity of Cement Mixed: 300 Sax
Number of Sax Put Away: 300
How Cement Discharged: through Perforations


7" O. D. Casing
Circulation Joint
Production from this oil zone later obtained by gun perforating
Cement Retainer Set 5180' (Later converted to Bridge Plug)
Lower Oil Sand Tested Wet
Cement squeezed through perforations
Top of Cement Plug
T. D. 6307'

Squeezing Off Lower Wet Zone with Baker Cement Retainer

IF you are confronted with water ...ms in your wells . . . problems which may be solved through the ... proper placement of cement and acids . . . it will pay you to in... the Baker Cement Retainer. This device is daily solving many of ... and unusual cementing, well repair, and well completion prob... confronting the industry today and it may be the solution to your ...

Complete information concerning the design, construction and operation of the Baker Cement Retainer and its many practical field applications will be found on pages 239-249 of the Baker Section of the Composite Catalog; also, in Baker Broadcast No. 17-A, a comprehensive, 40-page treatise, which will be sent to any oil man upon request.

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IMPORTANT CEMENT RETAINER APPLICATIONS INCLUDE:

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BAKER CEMENT RETAINER

6

A Case Study of an Actual Well Completion Problem Solved by Using the Baker Cement Retainer

may be defined as being compressed to a smaller volume than would be predicted by Boyle's law. As the pressure is increased above 150 atmospheres the deviation decreases until a pressure of between 300 and 350 atmospheres is attained, dependent upon temperature, at which pressure the gas once again conforms to Boyle's law. Increased compression of the gas results in the gas occupying a greater volume than would be calculated from Boyle's law.

In general field operations, under 50 atmospheres pressure, gas is measured at high pressures and the measured volume will be less due to the supercompressibility. As this gas expands to a low pressure, it will then exhibit the phenomena of supercompressibility. This factor for conditions, under 350 atmospheres pressure, will be greater than one, and above this pressure less than one as in the case of methane at 122° F., Figure 1.

By reference to Figure 1, it may be noted that temperature also affects these factors. In the case of methane, increased temperature results in decreased deviation. Therefore, when natural gas is measured at high pressure the measured volume must be corrected by a deviation factor, dependent upon the composition of the gas and the pressure and temperature at which this measurement is made. This deviation factor may be obtained from tables and charts prepared by the United States Bureau of Standards[3] or it may be calculated if the composition of the gas is known.

Diehl[4] has taken the deviation factors of various gas as given in the Bureau of Mines Technical Paper 158, and developed the following satisfactory formula:

$$N = \frac{0.154\ p\ (m + 4e + 3c + 0.22a)}{1000}$$

in which:

N = deviation in percent
p = pressure in pounds per square inch gauge
m = percent methane
e = percent ethane
c = percent carbon dioxide
a = percent air

The American Gas Association Measurement Committee suggest that the gas volume obtained from flow measurements at high pressure be multiplied by a correction factor = the square root of $1 + \frac{N}{100}$ where N is the percent deviation. Should the measurement at high pressures be made by displacement meters the observed volume should be multiplied by a correction factor $1 + \frac{N}{100}$ in which N is also the percent deviation as obtained by Diehl's formula. However for the use of this formulae, and the conversion of the deviation factor, the reader is referred to "Natural Gas Handbook" by Diehl which also contains many helpful tables relative to this problem.

The abnormal behavior of heavier hydrocarbon gases under exceedingly high pressure and temperature introduces a relatively new phenomena of so-called "retrograde condensation." This new phenomena is partly responsible for the growth in recycling and repressuring projects.

The economics of recycling or repressuring projects is governed in general, by the cost of recompressing the condition gas, as in the case of recycling, and returning it to the formation.

These costs of operation are determined by the amount of power required. Three factors govern in general the horsepower required to compress the gas; they are as follows:

1. Volume of gas to be handled.
2. Suction pressure to the compressor.
3. Discharge pressure of the compressor.

It will be noted that the volume of gas compressed is of importance in the design and operation of compressors in recycling and repressuring work.

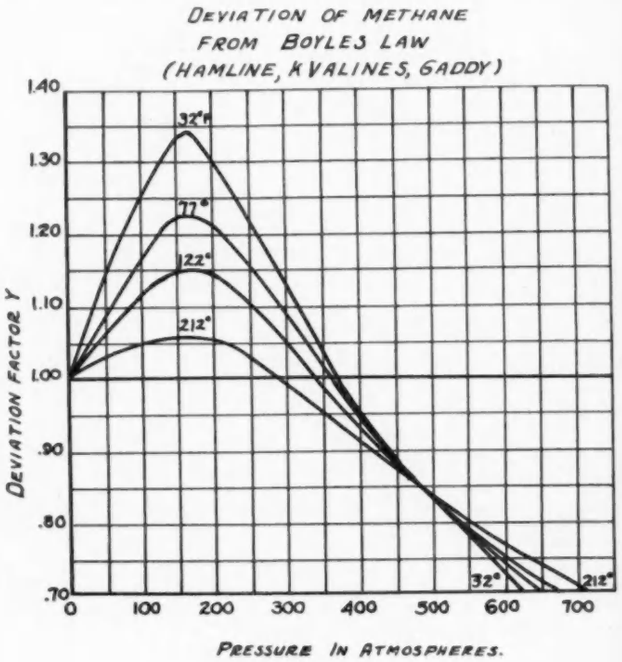


FIGURE 1

As previously stated the deviation factor may be calculated from tables and formulae set forth in Diehl.[4] With the high pressures encountered in recycling operations, other methods for calculating this deviation factor have been investigated as the effect of deviation from the gas laws on compressor capacity has important relations.

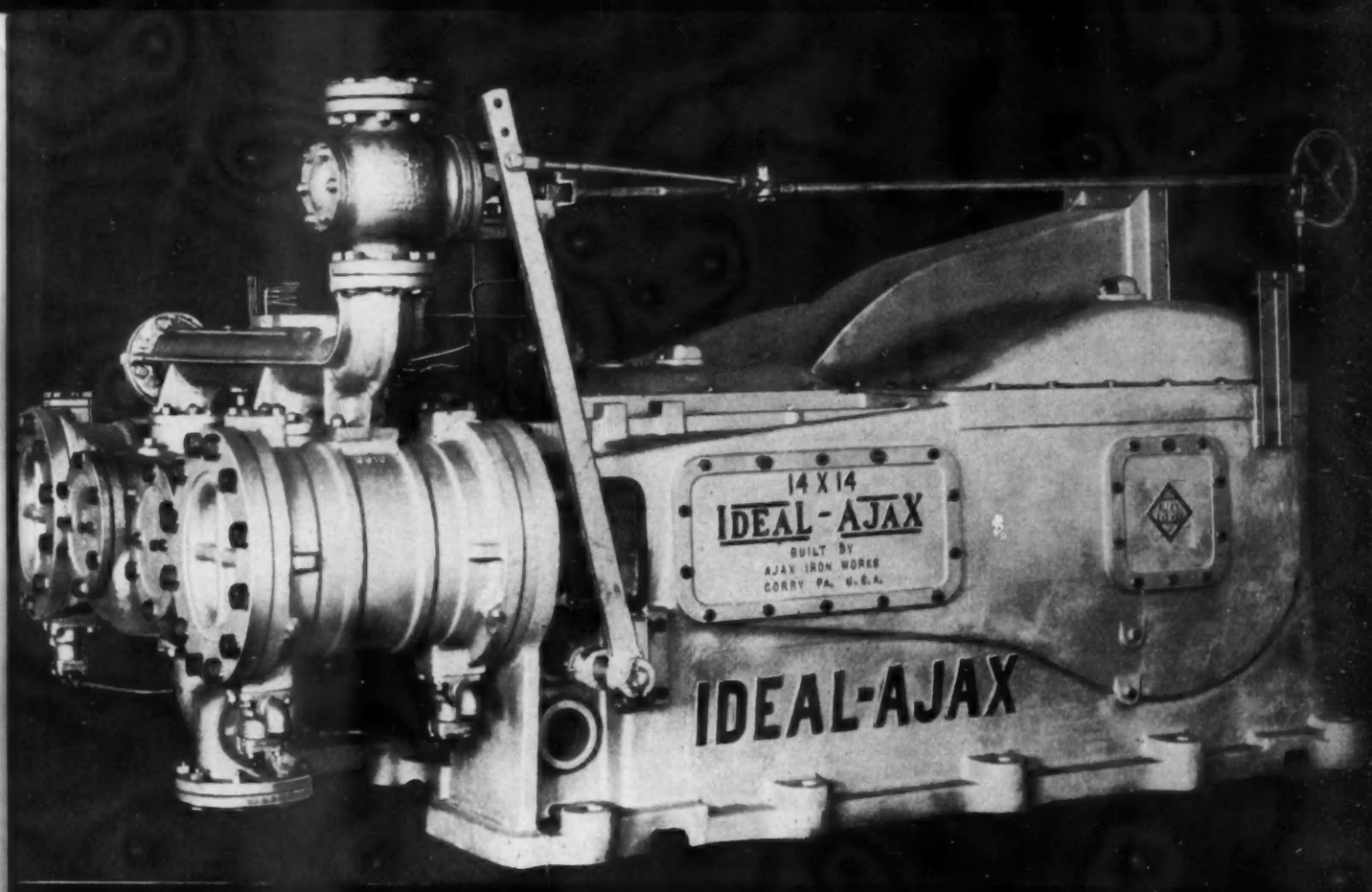
Various methods for estimating the amount of deviation at high pressures, above 30 atmospheres are available, but the lack of actual deviation measurements may in part be attributed to the fact that the design of compression equipment in recycling work, by test procedure, has eliminated the importance of such calculations.

One method of general importance, to calculate the deviation factor from the perfect gas laws is that suggested by Cope, Lewis, and Weber[5] and Lewis and Luke.[6] This method is based on the laws of corresponding states. These investigators found that by the use of reduced critical conditions the properties of hydrocarbon gases over a wide range of conditions could be estimated.

Their generalized curve based on available data is shown in Figure 2, however, to utilize this curve, it is necessary to know the critical pressure and temperature of the gas. In the absence of data on the critical mixtures of hydrocarbon vapors, Kay[7] has found that the properties can be estimated by a method in which he makes use of pseudocritical relationship.

To illustrate this method of calculating the devia-

[*Continued on page 242*]



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In keeping with the Ajax policy of constant improvement in steam drilling engine design and construction, a new 14 x 14 has been perfected—an engine built for mastery of the toughest drilling jobs of today *and the tougher ones of the future!* The many advanced features and refinements of this latest Ideal-Ajax place it in a class by itself for power and smoothness—unique in ability and ease of control, providing the unparalleled dependability of performance time-proved by Ajax Twin Cylinder *Steam* Engines throughout the world.

This impressive Ajax achievement will be on display and in operation at the National Supply Company's exhibit in Tulsa for the duration of the International Petroleum Exhibition, May 18-25.

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Men . . . Methods . . . Materials . . . Promote

RAPID advancements in petroleum equipment design are reflected by the Eleventh International Petroleum Exposition, being held in Tulsa from May 18 to 25. A concentration of more than $10,000,000 worth of equipment by 600 exhibitors on 25 acres of exposition space is expected to attract more than 250,000 visitors from every oil-producing section in the world. The exhibits are arranged to present a complete picture of equipment used in the petroleum industry, and a strong practical touch has been injected by addition of working models shown in action.

Displays of advanced lines of standard equipment are featured, but new equipment items hold a full measure of interest. An analysis of equipment exhibited helps to explain drilling records in the past, and indicates that still more difficult operating conditions will be met.

All types of equipment used in exploration work ahead of the drill, in drilling, production and pipeline activities are on display. The engineer or practical oil man finds the latest approach to his equipment problem, and a study of the exhibits reveals an attempt on the manufacturers' part to meet more difficult operating problems.

The current exposition is the largest yet held, with 25 nations participating. All buildings have been freshly painted and decorated, while many exhibitors have attempted to give their booths a more professional touch. Some of the equipment was moved in two months ahead of the opening.

Light and Heavy Equipment

A trend toward lighter equipment to meet specific needs is apparent, but some of the heaviest drilling equipment ever designed also is on display. Manufacturers are stressing the necessity for selection of equipment that is suited for a purpose, and in many instances both light and heavy items are proving popular.

In the field of petroleum exploration, equipment incidental to soil analysis, seismic methods, continuous resistivity curves, gamma ray, mass spectrometer, and gravity methods are on display. Improved aerial cameras and conventional geological equipment also is featured.

Geophysics to Front

The soil gas procedure, demonstrated as one of the more recent methods, consists of the application of the principles of gas absorption as used in charcoal gas masks. Gases given off by deposits of oil and gas permeate to the surface and are occluded by the soil, where they are changed to characteristic hydrocarbons. Testing of soil samples is now used to locate petroleum deposits, and is the first direct exploration method used since oil seeps were recognized more than 20 years ago.

The mass spectrometer, as applied to petroleum exploration, is a method for weighing in an electromagnetic manner the elements and molecules present in a given sample of soil. Such tests check on the presence of petroleum hydrocarbons. The method is being fully displayed.

Equipment for continuous logging of formations while simultaneously conducting regular drilling operations is being shown. This method uses the drilling bit as an electrode, special drill collar connections and conduits, and elaborate recording equipment on the surface.

Another new well logging device is the gamma ray detector that records emission of radioactive rays from various sub-surface strata. It is claimed that steel casing in the well does not hinder this logging method.

Another interesting display along exploration lines includes portable laboratories for analysis of drilling fluids to determine the presence of oil or gas in the various strata drilled. It is a form of well logging through mud analysis at frequent intervals.

New equipment displayed for geophysical work includes radios, oscillographs, gravity meters and magnetic devices.

Exhibits of drilling equipment are varied, but show a tendency toward use of equipment suited to specific conditions.

Important advances have been made in manufacture of portable rigs capable of drilling to 8000 feet, and of portable small-test coring rigs for operation to 4000 feet, as reflected by exhibits. Slim-hole truck- and trailer-mounted rigs carrying their own derricks show many improvements since their introduction at the 1938 show. A new jack-knife rig that can be assembled in one day and raised into position in three minutes is a sharp departure from the three-day drilling outfits of a few years ago.

Light rotary outfits for drilling rapidly to nominal depths are on display. Other rotary outfits designed for drilling small holes to 8000 feet or deeper also may be seen. These outfits are powered by steam or Diesel prime movers, with unitized auxiliary equipment.

Heavy drilling equipment is still popular in the deep drilling districts. Taller derricks, heavier draw works and pumps, and auxiliary rotary drives have greatly increased the over-all weight of the larger drilling outfits. Higher steam pressures have also influenced the trend toward heavier equipment in items directly connected with the use of power.

Improvements in equipment

Oil Field Technology

AT INTERNATIONAL PETROLEUM EXPOSITION

items to meet specific needs and conditions may be observed in a dozen exhibits. Bits, drill pipe and surface equipment have been improved to give operators a type to meet a need.

Improvements in oil well cementing equipment and practices, and development of special cements form the basis of several interesting displays. The shortening of the old three-day cementing time has been accompanied by many refinements. Cements have been developed for setting within 15 minutes of a specified time. Displays of equipment for special cementing operations, such as squeeze cementing and cementing off water are instructive.

Marked improvement in production equipment, rather than new production methods, are stressed by various exhibits. More eco-

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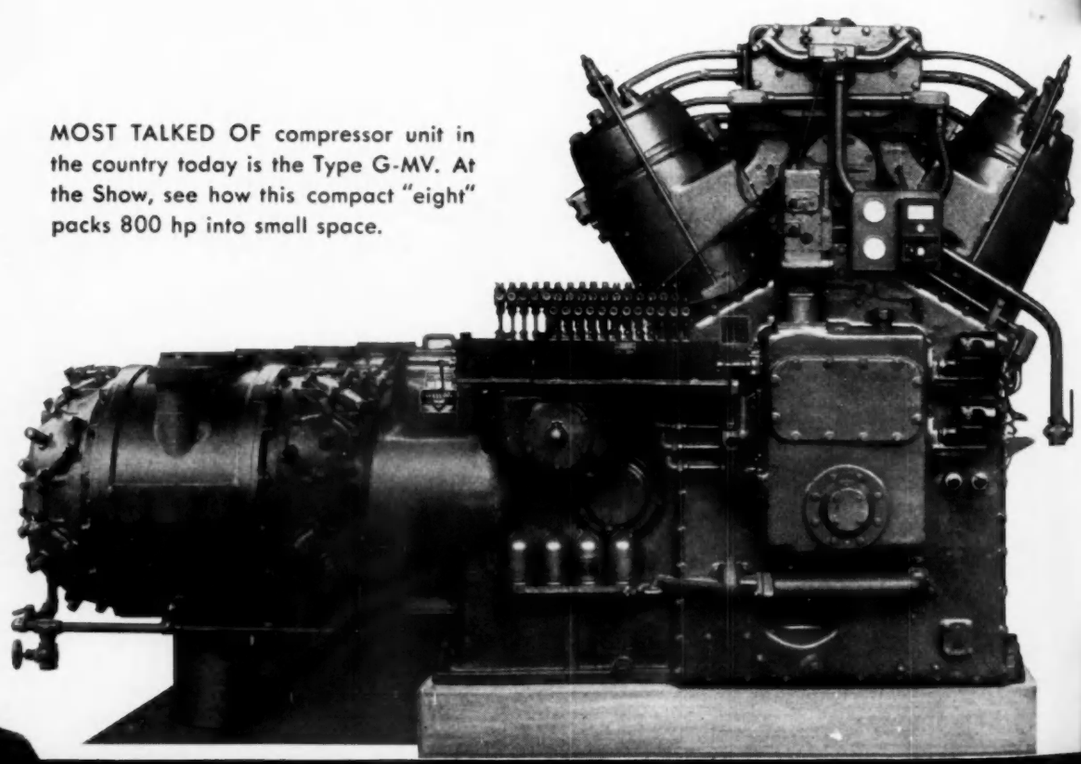
JOIN THE CROWDS that want to see the latest and best in heavy-duty gas engines and gas-engine-compressor units. It's worth a trip to the Show just to see the powerful and popular "V-Angle" compressor unit!

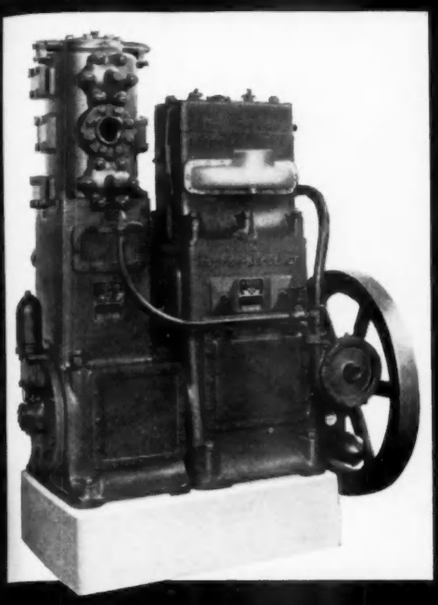
MOST TALKED OF compressor unit in the country today is the Type G-MV. At the Show, see how this compact "eight" packs 800 hp into small space.



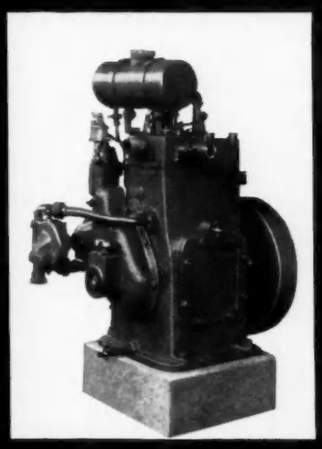
COOPER-

THE COOPER-BESSEMER CORPORATION

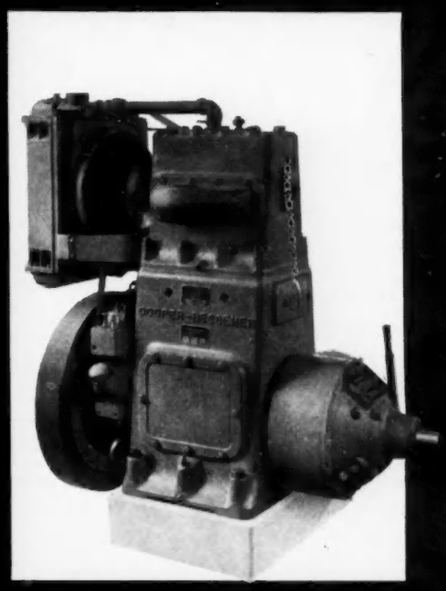
Mount Vernon, Ohio — PLANTS — Grove City, Pennsylvania



ANOTHER GREAT space-saver is the Type G-MS vertical compressor unit . . . 40 to 50 hp . . . and another compressor cylinder can be added for two-stage operation.

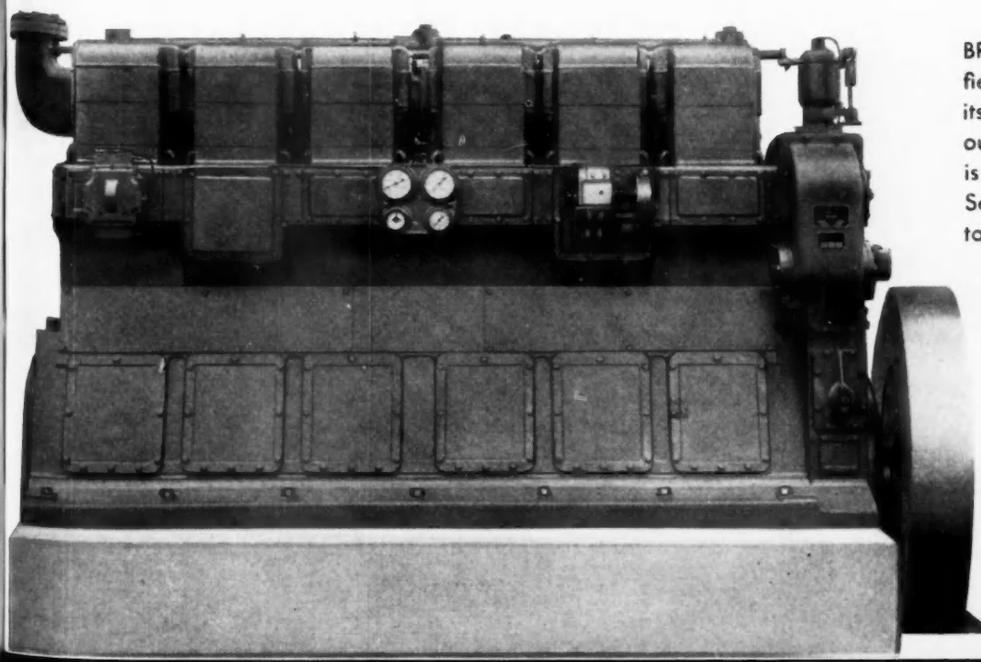


STARTING UNIT rated 6 hp. Furnishes 250 pounds' air pressure. Gas or gasoline fueled.



TYPE G-SC pumping engine . . . "built to outlast the field" . . . Rated 25 to 40 hp.

WE HOPE YOU can come to the Show . . . but if you miss it, check up on these "all-star" performers through our nearest representative.



BRAND NEW, with all the field-proved features of its predecessors, plus many outstanding improvements, is the Type JS gas engine. See the "six," rated 335 to 520 hp.

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nomically operated oil well pumping units, and units in which parts may be easily replaced are conspicuous.

The trend toward deep well pumping is reflected by various exhibits. Many pumping units displayed are specifically recommended for given conditions. Cushioning devices relieve the peak stress on rod strings, while "balanced" pumping units are effective under trying conditions.

Gas-lift equipment is being displayed in various forms. The introduction of intermitters has done much to reduce operating expenses in gas lift operations. These intermitters are set to meet individual well conditions, and the gas used in producing a certain volume of oil is much less than with the old continuous-flow method. Kick-off valves used during the initial producing periods are also displayed.

Hydraulic pumping units are being shown. They chiefly function through the circulation of oil from the surface to obtain oil in the well.

Metallurgy in Pumping

Metallurgy has played an important part in all pumping operations. Certain alloys have been added to sucker-rod steels to make them more resistant to fatigue and corrosion. Manufacturers of sucker rods and other vital working units in pumping operations have representatives available to point out the necessity for suitable selection of sucker rods and other equipment ordinarily subjected to severe strain or exposure to corrosion.

Equipment for acidizing wells to increase oil production has been greatly advanced. Through a new process, certain lime formations may be drilled under pressure with acid. This has proved helpful in completion of wells, loosening stuck tools, deepening wells in limestone, and cleaning-out operations. Acid under pressure also is used for removing cement from oil formations.

Exhibits relating to pipe-line construction and maintenance reflect the efforts of manufacturers to develop equipment suitable for use in inaccessible places. Recent developments in tractors and kindred equipment have done much to reduce construction and operating expenses in wooded sections and areas of extensive rock outcroppings. This new tractive equipment is designed to reduce the work necessary for clearing rights-of-way and for back-filling operations.

A wide assortment of welding equipment is displayed. New welding rods to meet difficult conditions, improved portable welding outfits and incidental equipment have done much to speed pipe-line welding operations.

Cathodic protection of pipe lines has led to development of several interesting equipment items, all on display. This electrical process has been developed on the theory that generating and directing electrical currents similar to those causing corrosion will offset those offending currents. The current is sent in the opposite direction in the pipe line through the use of higher voltage and reversed polarity. The generating equipment may be wind-driven, or powered with small motors of any type.

Recycling operations have expanded the demand for equipment suitable for treating natural gas and returning it to the ground under high pressures. Separators, compressors, recording instruments and fittings ordinarily used in recycling operations are prominently displayed.

Scientific Displays

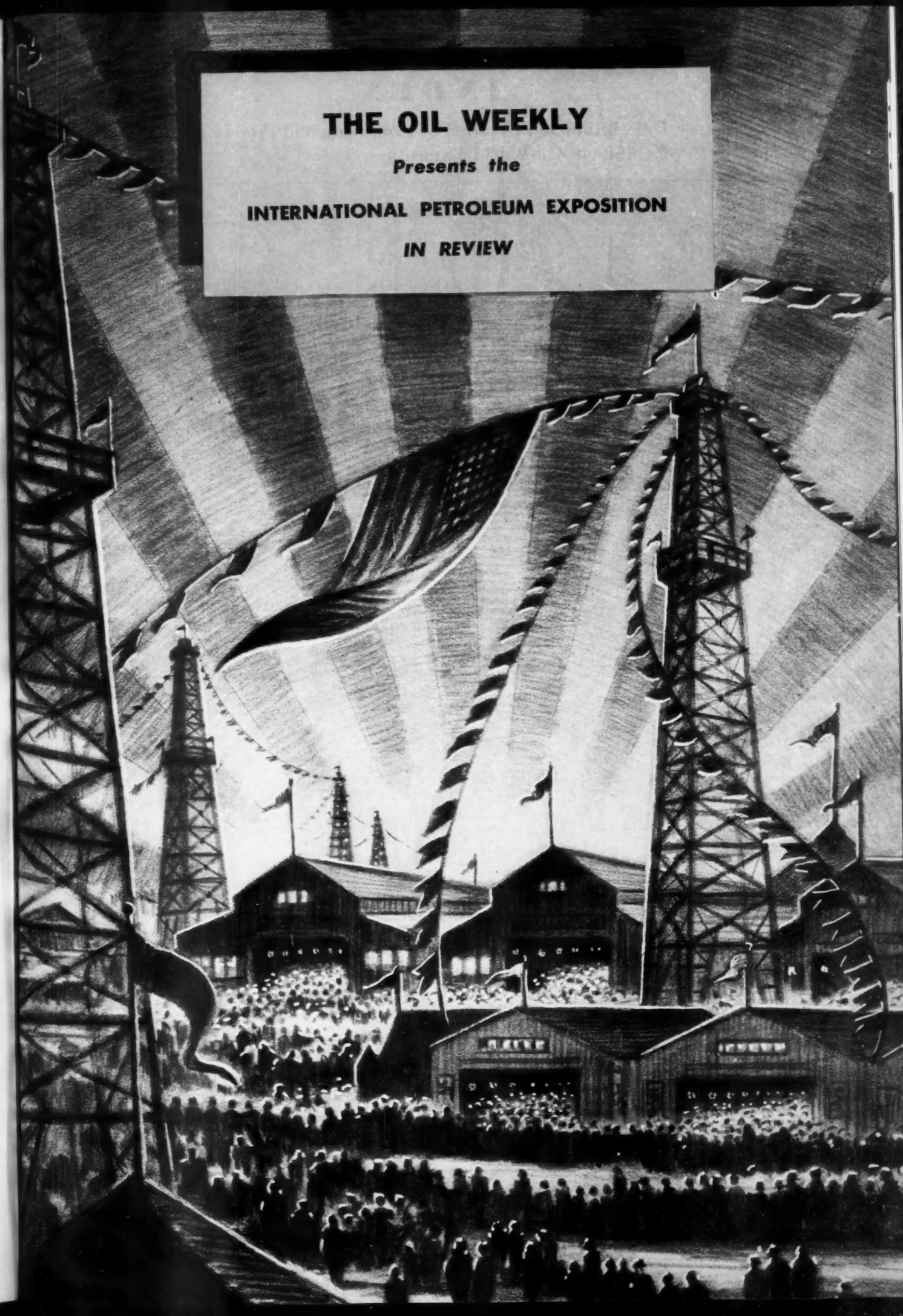
The Hall of Science houses many scientific displays that show various phases of exploration, drilling, production and pipe-line activities. A giant swamp buggy used in geophysical exploration in marshy areas; a geological cross section of the Illinois Basin; a new fifth place refractometer of high precision for analyzing and grading oils on the basis of dispersion readings; treating of oil for removal of water, and other interesting developments will be displayed.

Safety programs, exhibits and contests are given generous treatment, and each firm has been asked to stress the safety features of their products. Thursday, May 23, has been designated "Safety Day" for the exposition. An all-day conference will be held, culminating in a banquet during which 12 individual prizes will be awarded to foremen and supervisors, and to drivers of company-operated trucks and cars. Safety directors representing the major oil and equipment supply firms will participate in the conference. The theme of the meeting is to "make the petroleum industry the safest in the world."

The "Old-Timers" committee for the 1940 exposition has enlarged its activity this year to include awarding the title "Grand Old Man" to individuals representing each branch of the petroleum industry. In the past this title has gone only to one man in the industry as a whole. These pioneers, who have been nominated by special committees for each branch of the industry, have been chosen on the basis of their length of service and contributions to their particular division. Branches for these awards include production; refining; supplies and equipment; land, lease and legal; marketers; natural gas; natural gasoline; pipe line and transportation, and purchasing agents. A "Pioneer of Pioneers" also will be named during the exposition, and all old-timers' awards will be made during a ceremony on Friday, May 24.

Attendance from foreign nations is larger than at any exposition in the past. Delegates from about 25 nations are present, as compared with 18 delegations at the 1938 exposition. The increased international representation has resulted in appointment of three committees, instead of the original single committee. Cooperation of the Los Angeles, Houston, New York and Tulsa chapters of the Nomads has been helpful in connection with invitations to foreign representatives. A new building for international delegates is being used for the first time this year. Special meetings are being held for the international visitors, including a banquet on May 21.

The number of exhibitor-owned buildings has sharply increased this year. Ten exhibitors erected permanent buildings for 1940 and 22 others have erected portable structures for their outside spaces this year. More than 30 permanent buildings were maintained on the grounds prior to the 1940 exposition.


THE OIL WEEKLY
Presents the
INTERNATIONAL PETROLEUM EXPOSITION
IN REVIEW

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"Come to see us" . . .

International Petroleum Exposition, Tulsa, Okla., May 18-25
American Petroleum Institute Meeting, Fort Worth, May 27-31

Mid-Continent Supply Company

Mid-Continent Bldg. **Fort Worth, Texas**

MID-CONTINENT SUPPLY CO.

LOOK FOR THE BLUE NEON DERRICK

AT TULSA SEE THE **NEW LINE** OF

Supercharged

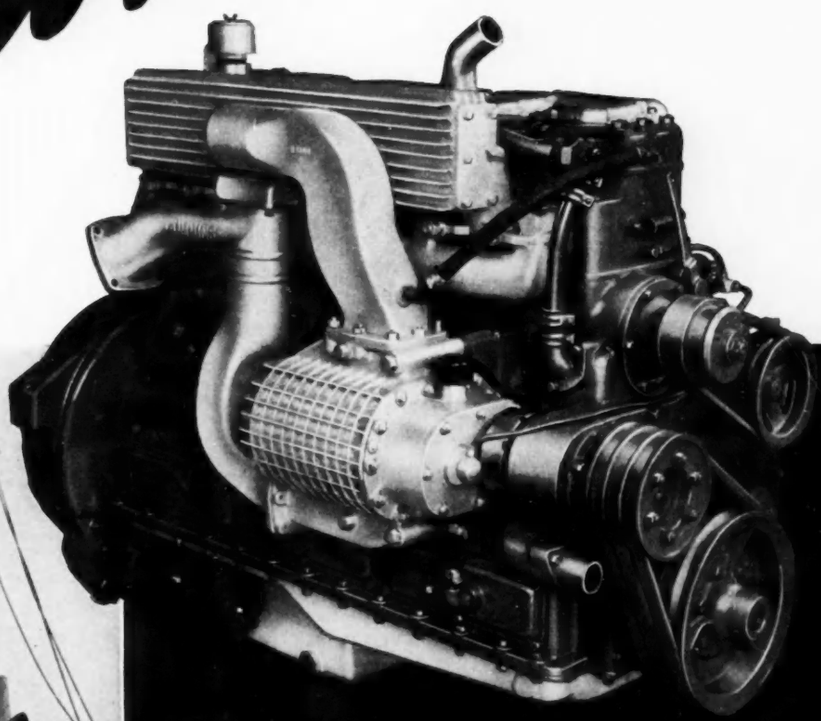
CUMMINS
Dependable
DIESELS

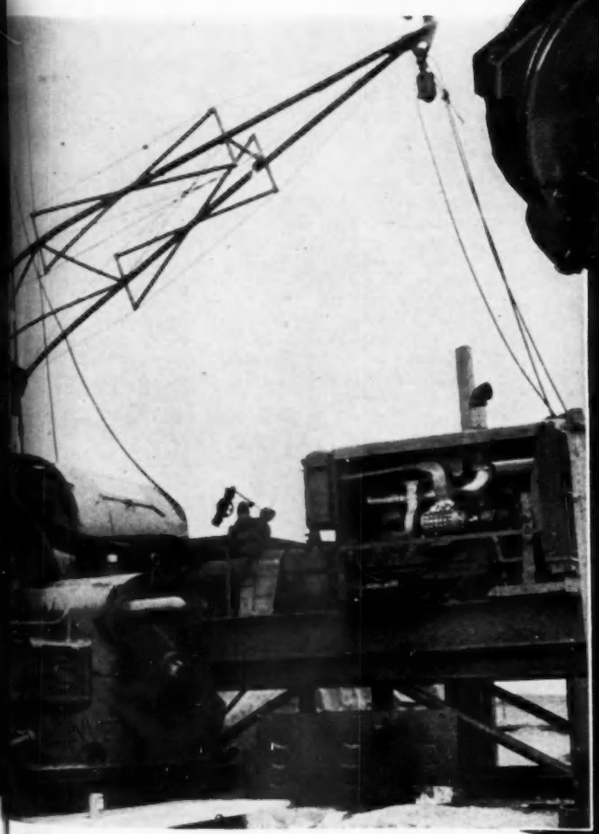
- One-third more power...no increase in size.
- Less weight per horsepower.
- Increased flexibility...smoother running.
- Greater fuel and lube oil economy per horsepower.
- Performance fully demonstrated by over a year's operating records...and like *all* Cummins Dependable Diesels the supercharged models are...

WARRANTED FOR ONE YEA

3 New Models

AT THE MID-CONTINENT SUPPLY COMPANY'S EXHIBIT





pair of 200 hp. Supercharged Cummins Depend-Diesels power a slim hole drilling rig operating Eunice, N. M.

See them . . . get all the facts, because these new Supercharged Cummins Dependable Diesels are the answer to the maximum in diesel operating economy with the lowest weight per horsepower. If you can't attend the Show, write for new bulletin "The Logic of Supercharging." Cummins Engine Company, 1516 Wilson St., Columbus, Indiana.

MID-CONTINENT SUPPLY COMPANY • FORT WORTH, TEXAS

SEE MID-CONTINENT SUPPLY CO.

LOOK FOR THE BLUE NEON DERRICK

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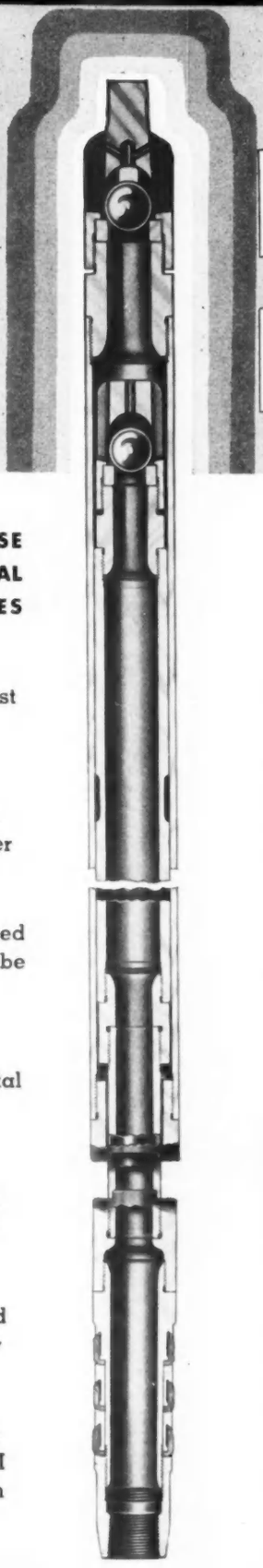
PACIFIC *presents the new* METALLO-SEAL PUMP



CHECK THESE METALLO-SEAL ADVANTAGES

- Low First-Cost
- Pacific Molloy-XX Hard-Plunger
- Mirror Finished Precision Tube
- Close Metal-To-Metal Fit
- Maximum Passages
- Unrestricted Fluid Flow
- Adaptable To Any API Hold Down

A LOW FIRST-COST PUMP, ENGINEERED ON THE PACIFIC PRINCIPLE OF MAXIMUM PASSAGES FOR UNRESTRICTED FLUID FLOW

PACIFIC Metallo-Seal Pump utilizes the service-proven PACIFIC Moloy Liner metal for an effective seal as a plunger in a specially finished precision tube. PACIFIC Moloy Plungers have proved their anti-frictional and wear-resistant qualities for years. Their resistance to galling makes possible a closer fit which reduces fluid slippage and results in higher pump efficiency than the low first-cost would indicate.

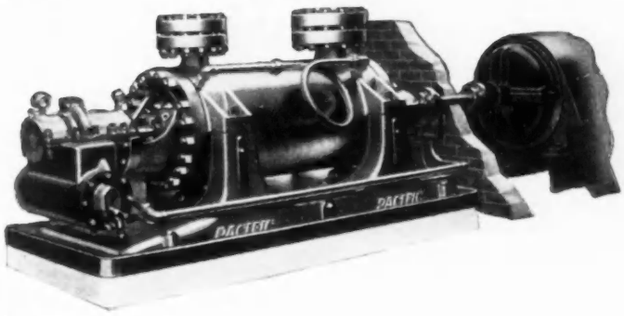
Illustrated is the Rod-Traveling Type with 3-cup Hold Down. Any API Hold Down or Locking means may be employed.

PACIFIC PUMPS ON DISPLAY

See PACIFIC PUMPS in the following exhibits:

MID-CONTINENT PUMP SUPPLY CO.
Booths 229-230 Oklahoma Bldg.

MID-CONTINENT SUPPLY CO. BLDG.
Block 3, Outside

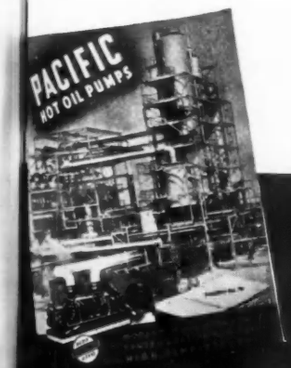


Pacific *Streamlined* Deep Well Oil Pumps

Built to increase pumping efficiency by minimizing friction, reducing "cutting" of oil and eliminating turbulences, PACIFIC PUMPS offer the oil well operator many combinations to meet every well condition. Bulletins giving complete specifications and combinations of PACIFIC PUMPS are available without cost. Copies will be furnished on request.

PACIFIC HOT OIL PUMPS

PACIFIC HOT OIL PUMP is a multi-stage horizontal, double-case, centrifugal pump—furnished with a forged steel shell, end covers and nozzles. Designed for temperatures from sub-zero up to 850° F. with differential pressures up to 2500 lbs. and capacities from 50 G.P.M. Adaptable for low or high suction pressure conditions. Pacific High Pressure Hot Oil Pumps are operating economically in refineries throughout the world. They are acknowledged by refinery engineers as the most efficient units for handling both heavy and light liquids.

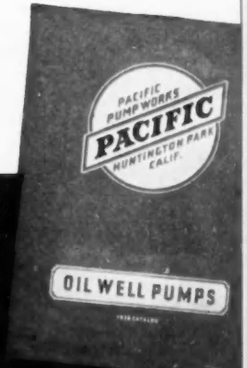


Send for Bulletins Describing Pacific Pumps

PACIFIC PUMP WORKS
5715 Bicket St. — **Huntington Park, California**

EXPORT OFFICE
255 Broadway, New York City

DISTRIBUTORS
Mid-Continent Pump Supply Co.
Mid-Continent Supply Co.



PACIFIC PUMPS

W-K-M Company, Inc.
HOUSTON, TEXAS

Acme Gas Lift Company
HOUSTON, TEXAS

Crutcher-Rolfe-Cummings
HOUSTON, TEXAS

Everlasting Valve Company
JERSEY CITY, NEW JERSEY

Houston Engineers
HOUSTON, TEXAS

Hunt Tool Company
HOUSTON, TEXAS

Merco Centrifugal Company
SAN FRANCISCO, CALIFORNIA

Rig-A-Lite Sales Company

L-K Pump Valve Company
Booths 207-208-209-210-241-242-243-244 Oklahoma Bldg.

EXHIBIT: W-K-M. Through conduit lubricated gate valves, including cutaway models, working models and assembled Christmas trees; Tubing slips and spiders; Rotary slips; Master steam scrubbers; Master gas scrubbers; Hauser round kelly drive; Gun perforator; Pipe cleaning and priming machine. J-M pipe coating and wrapping machine. Acme gas lift. H-E reversing tool, spear, overshot and fishing tools. Rig-A-Lite derrick lighting strings. L-K cementing plugs and spinning line swivels. Hunt wire line core bits. Hunt welded-in blade bits. Hunt Valves. Hunt Blue-Flame and Reagan gas burners. Everlasting Valve Company Blow-off valves; Throttle shut-off valves; Water column valves; Tandem valves. Merco Centrifugal Company's desander and concentrator. Crutcher-Rolfs-Cummings Pipe Line equipment.

NEW PRODUCTS:

Merco Type A-24 Concentrator—Perfected for restoring, maintaining, increasing or reducing mud-weight; for recovering concentrated weighted mud from abandoned pumps for re-use; for conserving weighting materials; for controlling mud-viscosity in rotary drilling operations. Any desired mud-weight may be obtained up to a density of 120 pounds per cubic feet to 130 pounds per cubic feet.

REPRESENTATIVES: L. O. Koen, vice president; O. D. Small, F. M. Black, G. M. Stewart, George Franks and W. H. Eason, W-K-M Company.

E. N. Corning, Everlasting Valve Company.

C. J. Brown and C. A. Lindsay, Merco Centrifugal Company.

J. D. Cummings, A. S. Crutcher and E. L. Rolfs, Crutcher-Rolfs-Cummings.

W. L. Church, Acme Gas Lift Company.

T. N. Hunt and U. V. Seales, Hunt Tool Company.

H. B. Cookston, Rig-A-Lite Sales Company.

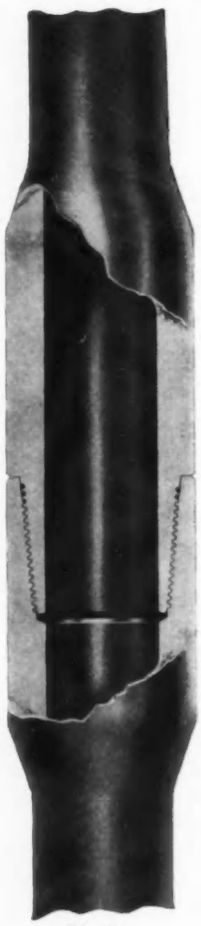
C. R. Edwards, R. M. Claypool and J. A. Dormant, Houston Engineers.

Hughes Tool Company
HOUSTON, TEXAS
Booths 211-215 and 236-240 Oklahoma Bldg.

EXHIBIT: Rock bits. Core bits. Tool joints. Valves and fittings. Unitized drill stem.

NEW PRODUCTS:

"Flash-Welded" Unitized Drill Stem—This recently introduced process of drill stem unitization is claimed to be a major advance in drill stem design, as it completely eliminates pipe threads. Any drill pipe and standard tool joints may be flash-welded by the Hughes method.



Hughes Flash-Welded Tool Joint

REPRESENTATIVES: Howe Walker, and representatives from Sales and Engineering Departments.

Pittsburgh Equitable Meter Company
PITTSBURGH, PENNSYLVANIA
Booths 35-38 Scientific & Technical Bldg.

EXHIBIT: Emco gas meters. Emco gas pressure regulators. Pittsburgh oil and gasoline meters. Stupakoff bottom-hole pressure gages and samplers. Raybould Couplings.

NEW PRODUCTS:

Rotocycle Meter for pipe line and marketing service is designed without valves or reciprocating pistons that might impede the flow of liquid through the meter. Measurement is effected by a continuous rotating cycle. The meter consists of a cylindrical housing elevated above an inlet and outlet manifold. The measurement element is a cylindrical shell carrying four half-moon shaped buckets geared together in ratio of one to one. Two of the buckets are always in contact with the measuring chamber to form a closed compartment, and the volume of the compartment is a definite displacement, and a certain number of the displacements are counted and recorded on the register for every barrel or gallon passing through the meter.

Type 38 Orifice Meter.

Emco 1001 Regulator.

REPRESENTATIVES: W. F. Rockwell, president; A. E. Higgins, vice president and sales manager; A. J. Kerr, district manager; R. R. Bush, J. E. B. Sundy, Tom Stacy, T. R. Van Arsdale, J. S. Cottrell, F. N. Dillman, O. W. Barnett, W. R. McLaughlin, D. D. Collins, C. K. Madison, C. E. Baird, H. Gottwald, Ralph Marriott and P. C. Kreuch.

Republic Steel Corporation
CLEVELAND, OHIO
Booths 103-114, Kansas Bldg.

EXHIBIT: Normalized casing and line pipe, including samples and test specimens, and a chart showing collapse and joint strength data. Alloy steels, Enduro stainless steel, wire, Upson bolts and nuts, sheets and strip, Electrunite boiler tubes, and containers of Niles Steel Division.

REPRESENTATIVES: E. E. Haubegger, M. B. Brown, G. F. Hess, Hoyle Jones, J. E. Holmes, J. E. McFate, G. R. Locke, W. M. Neckerman, M. J. Cauger, J. M. Higenbotham and C. W. Ruth.

Texas Foundries, Inc.
LUFKIN, TEXAS
Booth 71, Kansas Bldg.

EXHIBIT: Malleable castings for oil field equipment.

REPRESENTATIVES: Col. Cal C. Chambers, president; Herman H. Brien, vice president and sales manager, M. E. Gorman, assistant sales manager; and J. H. Parker, sales.

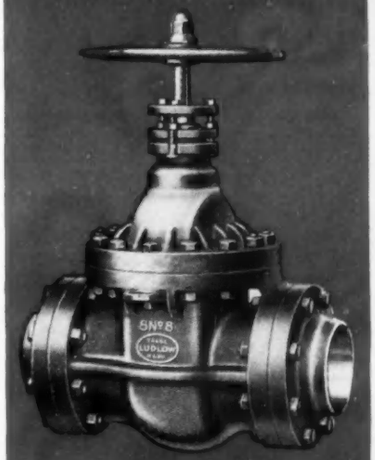
Why Alert Oil Field Engineers SPECIFY LUDLOW VALVES

Ludlow Flanged-end Valve. All-iron or iron body bronze-mounted.

Four stand-out features of LUDLOW Valves give them leadership in the oil fields:

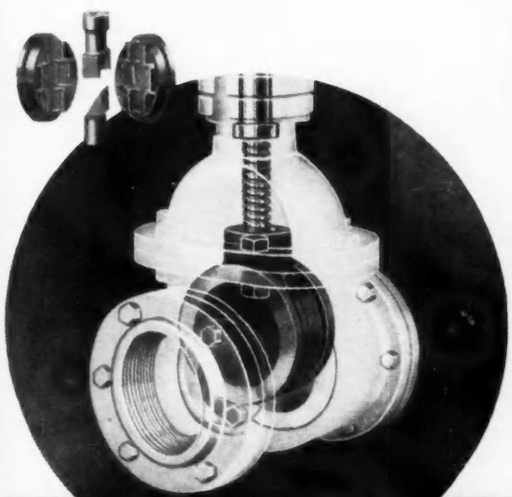
- SMOOTH, POSITIVE OPERATION. Gates positioned *directly* opposite ports *before* wedging, and entirely unwedged *before* being raised.
- POSITIVE CLOSURE — even after years of service in the open position; 30° wedges; gates *self-adjusting* to seats.
- SELF-CLEANING. Seat rings cleaned *throughout entire stroke. No internal guides* to cause foul-up.
- READY REPLACEMENT OF PARTS. Simple construction to ample tolerances, permitting ready replacement of parts.

Only the parallel seat, double wedge type slide gate valve provides *all* these essential benefits. This principle, developed and perfected by Ludlow, has been universally accepted and preferred for oil, gas, and water lines since 1866.

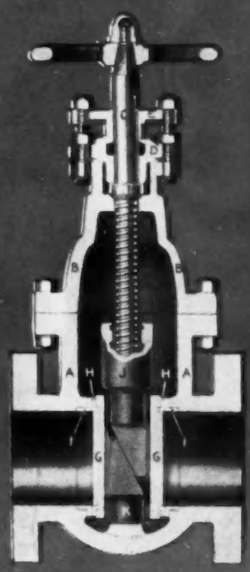


Ludlow Valve with forged steel welding flanges. Old-timers in the oil fields call the *Ludlow* Valve the "most flexible valve."

Ludlow Valves are available in all standard sizes and types, and for all special purposes. Illustrated is Ludlow O.S.&Y. valve equipped with Cutler-Hammer TN-4 motor unit, as furnished for oil industry.



Delay of wedging action until gates are opposite ports guarantees minimum wear of rings. Stuffing box permits repacking while gate is in open position.



The LUDLOW VALVE MFG·CO·INC· SINCE 1866 TROY·N·Y·

SEE MID-CONTINENT SUPPLY CO.

LOOK FOR THE BLUE NEON DERRICK

Lufkin Foundry & Machine Company

LUFKIN, TEXAS
Block 3 Outside

EXHIBIT: Pumping Assembly TC-OL-51B, powered by a 40-horsepower Cooper-Bessemer vertical engine. Unit TC-2A-36, Waukesha powered. Unit TC-3-22D, Hercules powered. Unit TC-44-15, International 1855-56 powered. Unit TC-77-3, Waukesha powered. Gear Box 35, with back crank equipment for pulling an extra well. Jack 17. Cut-away gear box 5, showing the oiling system and operation of gears.

NEW PRODUCTS:

Pumping Assembly TC-44-15 with a rated polish rod load of 13,500 pounds, has a 16 x 8½-inch x 58-pound walking beam with 6-foot working centers; hinged horsehead hanger with ⅞-inch

Lufkin TC-44-15 Pumping Assembly

wire line on equalizing sheave; universal equalizer pitman with bearings in line, 2½-inch heavy pipe connections and universal lower bearings; bronze bushed 5 x 10½-inch center bearing, oil bath; tripod samson post 8 feet, 1 inch high; base 8 inches deep, 25 inches wide at gear box and 16 feet, 5 inches long; 46-inch radius cranks; 3¾ x 3½-inch crank pins; 3-15/16 x 7¼-inch bronze bushed tail bearing; double reduction gears, main gear 24-inch diameter and 6¼-inch face; rating of 16.3 nominal horsepower at 20 strokes per minute; 4⅞-inch diameter crankshaft, and weight of 13,300 pounds.

REPRESENTATIVES: All firm representatives.

Houston Oil Field Material Company, Inc.

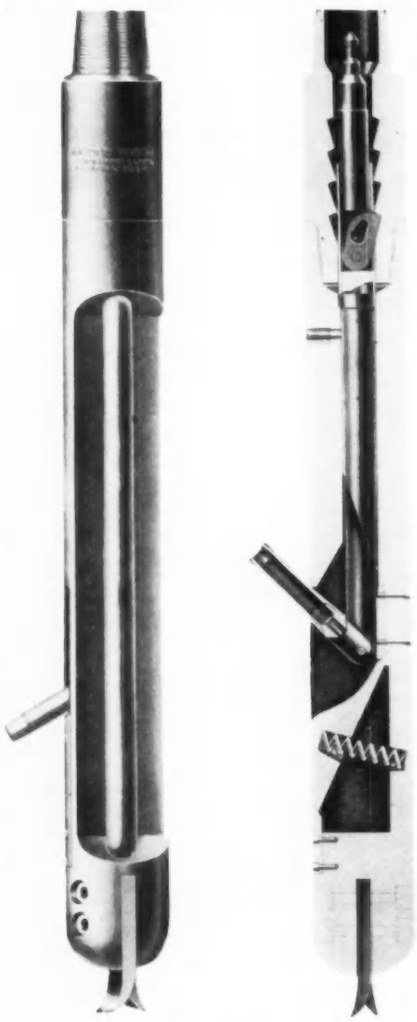
HOUSTON, TEXAS
Booth 46 California Bldg.

EXHIBIT: Homco patented side wall sampler. Retractable wire line core barrel. CMP patented circulating and releasing rotary overshot. CMP patented outside drill pipe cutter. CMP patented inside drill pipe cutter. CMP patented inside casing cutter. CMP patented circulating and releasing spear. CMP combination rotating and releasing spear and back-pressure valve mill. CMP patented combination inside tubing cutter and releasing spear. E&W patented milling-out boring bar and mills.

NEW PRODUCTS:

Homco Patented Side Wall Sampler is a new method of taking and recovering side wall samples through drill stem by means of a wire line retractable core barrel. Cores 1¼ inches in diameter and four to six inches long may be obtained in drilled holes of 8½ to 12¼ inches in diameter; while 1⅜-inch cores from four to six inches long may be obtained in drilled holes 7½ to 8½ inches in diameter, the length of samples depending on the length of the core tube used. This tool is run on the drill pipe, and rotation and circulation of drilling fluid is permitted at all times, except when actuating the drill stem to obtain samples. Any number of samples are taken without interrupting normal drilling procedure, and the samples are large enough to furnish a complete analysis of formation, it is claimed.

REPRESENTATIVES: George E. Justice, A. B. Foreman and P. M. Neal.



Homco Side Wall Sampler

Wickwire Spencer Steel Company

NEW YORK, NEW YORK
Booths 109-110 Oklahoma Bldg.

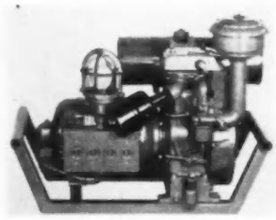
EXHIBITS: Paneled display with an illusion box, stressing length of service life, and economical costs of Wickwire drilling-lines and other ropes for the oil industry.

REPRESENTATIVES: O. C. Elliott, R. J. Jones, E. J. Daly, A. S. Rairden, K. A. Zollner.

United States Motors Corporation

OSHKOSH, WISCONSIN
Booth 5 Kansas Bldg.

EXHIBIT: Electric generating plants, including units of various sizes and types for lighting, construction and repair operation; for use in operating portable drills, saws, etc.; for cathodic



United States 1250-Watt Portable Generating Unit

protection of pipe lines. Units for gas or gasoline fuel from 400 watts to 75 KW; and for Diesel fuel from 3 KW to 75 KW.

REPRESENTATIVES: Warner Lewis, Oklahoma distributor, and J. T. Borton, sales manager.

%Proportioneers, Inc.%

PROVIDENCE, RHODE ISLAND
Booths 78-79 Texas Bldg.

EXHIBIT: Metering, controlling and proportioning equipment. New streamlined constant rate proportioning pump. Demonstration unit illustrating flow proportional injection of coloring and gum inhibitor into gasoline. Larger units for acid treating, oil blending, gasoline blending, doctor treating and sulphur sweetening.

NEW PRODUCTS:

Constant Rate Proportioning Pump—This new streamlined pump incorporates an oil seal yoke. It can be run at constant rate, controlled on a repeating time cycle or operated to feed "shots" of an adjustable time duration based on accumulation flow through a venturi tube or orifice plate and flow responsive meter.

REPRESENTATIVES: R. P. Lowe, vice president and chief engineer; B. W. Vinson and H. W. Ardruser of Vinson Supply Company.

Hinderliter Tool Company

TULSA, OKLAHOMA
Hinderliter Bldg.

EXHIBIT: Dual valve well pressure control. Rotary drilling-in and coring head. Five Type HWF tubing heads equipped either with tubing hanger or tubing slips. Slip type braden head. Tubing hanger. XF type flanged tubing head equipped with tubing hanger or tubing slips. Automatic tubing wedges. "4-In-One" low pressure tubing head with tubing seal. High and low pressure Christmas tree hook-ups. Coring heads designed for flanged welding and slips (no rubber necessary). Extensive array of tool joints including the Hi-Pack-Off type as well as the undercut structure.

REPRESENTATIVES: C. M. Anderson, Longview; A. M. Campbell, Tulsa; Ray Cash, Clay City, Illinois; L. W. Chadderdon, Oklahoma City; M. J. "Bud" Conley, Shreveport; T. R. Elliott, Clay City; Herman B. Hendershot, Tulsa; Chas. A. Hinderliter, Dallas; Don R. Hinderliter, Tulsa; C. M. Laudermilk, Shreveport; R. H. McKay, Tulsa; L. L. McColm, Pampa, Texas; J. J. Middaugh, Houston; John H. Moran, Houston; Steele S. Meely, Wichita; John J. Olivier, Hobbs, New Mexico; W. P. Pound, Oklahoma City; J. G. Russell, Seminole, Oklahoma; J. O. Simpson, Wichita Falls; W. B. Starmer, Tulsa; A. L. Stewart, Tulsa; Don H. Swindler, Houston; M. A. Weston, Clay City; F. J. Wilbanks, Seminole; C. C. Wright, Oklahoma City; Blaine Hendershot, Tulsa; M. B. Thompson, Odessa, Texas.

A-1 Bit & Tool Company

HOUSTON, TEXAS
Block V, Outside

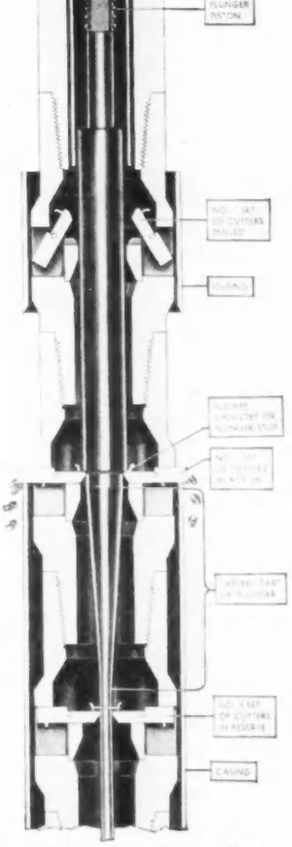
EXHIBIT: Barrett & Robishaw casing mill.

NEW PRODUCTS:

Barrett & Robishaw Casing Mill—a tool that completely mills up into shavings an entire section of casing wall including couplings, and pumps the cuttings out of the hole with the mud. A tool utilized for nitro-glycerine sand or lime shooting, acidizing, setting screen against open sand section in lieu of setting in perforated casing, gravel packing and cement squeezing; for side-tracking through casing by removing casing wall first and then setting whipstock.

The first operation of cutting through the casing at the desired depth is done by forcing a piston plunger mandrel downward through a cylinder by pump pressure. This downward movement of the plunger mandrel piston forces the cutter knives outward and upward against the casing wall. Rotation of the tool causes these knives to cut through the casing wall and when the knives reach the horizontal plane, the bottom part of the knives become the cutting edges and weight takes the place of the hydrostatic pressure, which has been relieved through the uncovered ports. This Cutting-Thru Mill is pulled out of hole when knives are dull, then the Self-Changing Cutter Mill is run in the hole with as many sets of knives in series as is desired.

This mill has a long tapered plunger which extends thru several series of cutters. Pump pressure forces this plunger down thru the sets of cutters until the shoulder or plunger stop rests on No. 1 set of cutters, which have been pushed out into cutting position by the downward movement of the tapered plunger. No. 1 set of cutters are expanded in the window where the



Barrett & Robishaw Casing Cutter

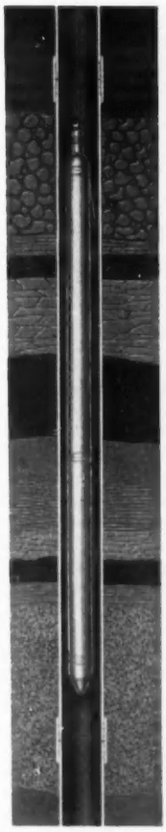
Cutting-Thru Mill has cut away the casing wall. Weight is applied to No. 1 set of cutters and when they are dulled the drill pipe is raised until the dull knives come in contact with the top of the casing window, then a pin is sheared, the cutters fold back and the tapered plunger drops down thru No. 2 set of cutters which are expanded by this action. When this set of cutters is dulled No. 3 set of cutters is placed in cutting position in the same manner as No. 2, and so on.

REPRESENTATIVES: C. L. Clausel, C. B. McDonald, E. J. Robishaw, and S. Robishaw.

Well Surveys, Inc.

TULSA, OKLAHOMA
Booth 85 Scientific and Technical Bldg.

EXHIBIT: Radioactivity well surveying apparatus for logging cased wells, including the detector of radioactivity, new depth measuring and recording apparatus and a considerable number of radioactivity well logs obtained in representative areas. A number of maps showing long and short distance correlations by radioactivity also are shown.



Radioactivity Surveying Instrument

NEW PRODUCTS

Radioactivity Well Logging—This new method of well logging has the ability to log formations through casing, and can also be used in open holes. Utilizing the radioactivity of formation rocks, the method was developed in the laboratories of Seismograph Service Corporation and Engineering Laboratories, Inc., of which Well Surveys, Inc., is an affiliate. It has been found that certain beds below the surface have a greater content of radioactive elements than others, and that the iron pipe offers very little impediment to the Gamma-rays which are emitted by these radioactive elements. Consequently, the device is lowered in a well to detect and record the quantity of radioactive emission at all points. The lower section of the instrument contains detector of radioactivity. Upper section contains amplifier and equipment for transmitting the indications through the cable to the surface.

REPRESENTATIVES: R. E. Fearon, E. H. Olmstead and T. G. Gilmartin.

Tyson Roller Bearing Corporation

MASSILLON, OHIO
Booth 168 Oklahoma Bldg.

EXHIBITS: Various sizes of Tyson bearings and a life curve indicating the increased life obtained from Cageless bearings.

REPRESENTATIVES: R. H. Maxson, president; Geo. C. McMullen, vice president; C. H. Frazier, sales engineer.

Tulsa Boiler & Machinery Company

TULSA, OKLAHOMA
Booths 20-21 Scientific & Technical Bldg.

EXHIBITS: Tank made of stainless steel. Bubble caps made of stainless steel. Various types of pipe line scrapers.

NEW PRODUCTS:

Pipe Line Scrapers were developed to clean long gasoline lines. After the brush or knife type scraper is first used to clean the line, the new plug type scraper will keep the line clean with minimum effort. The scraper consists of a driving section, using special composition rubber driving discs, flexibly connected to a cleaning head, interchangeable to any of the three types of scrapers. The skeleton of the scraper is the same for the 4-inch, 6-inch, 8-inch and 10-inch sizes and is readily changed from one size to another by changing guide arms, driving discs and brushes or knives. A plug type scraper is also made for use in low pressure transite pipe lines and is available in 2-inch, 3-inch, 4-inch, 6-inch, 8-inch and 10-inch sizes.

REPRESENTATIVES: H. V. Carter, M. W. Clark, D. E. Fields, C. B. Gannaway, T. M. Hegfie, H. G. Lewis, Sam E. Loy, S. L. Spence.

Clark Brothers Company

OLEAN, NEW YORK
Clark Bldg.

EXHIBITS: Model RA-8 gas engine driven Angle compressor. Model F 8-cylinder convertible gas or Diesel engines.

NEW PRODUCTS:

Model RA-8 Angle Compressor is an 8-cylinder gas engine driven unit. This machine is equipped with all latest auxiliary equipment developed in the past two years to improve performance and output. The engine will be shown with forged steel compressor clyinders designed for operation up to 5000 pounds per square inch.

Model F Convertible Gas or Diesel Engines—These 8-cylinder engines have many modern improvements and are very attractive in appearance, being fully enclosed, compact and with clean lines. The engines feature the new development known as the Cetane Selector. They are readily convertible from gas to fuel oil and are particularly designed for drilling or generator service.

REPRESENTATIVES: C. P. Clark, president; J. B. O'Connor, vice president; J. N. MacKendrick, chief engineer; Russell Pyle, Diesel engineer; F. W. Laverty, technical department; V. R. Wittich, export manager; G. I. Schwallbach, European representative; D. K. Hutchcraft, Mid-Continent manager; F. R. Hayes, Houston manager; G. W. Probst, William Roever, T. W. Webb, and Boyd Koepke, sales engineers; V. E. Ford, manager service department.

International Harvester Company

CHICAGO, ILLINOIS
Block 101 Outside

EXHIBIT: Wide variety of motor trucks, tractors and power units especially equipped and adapted for oil field work.

NEW PRODUCTS:

Diesel "TracTracTors"—Four new modernly styled crawlor tractors are on display, they have drawbar horsepower ranging from 30 for the TD-6 to more than 70 for the TD-18. As they will be fitted for the oil show, they are the TD-6 TracTracTor equipped with winch, the smallest in the line; the TD-9 and TD-14, next respectively in size and both equipped with pipe booms; and the TD-18, largest of the four Diesel models equipped with bull-grader. There also will be an International pneumatic-tired wheel tractor on display, equipped with special front-end winch. As has been the case with other International Diesels, each engine of the new line is provided with a distinctive method of starting by which it starts on gasoline and after about a minute or less of operation, shifts to full Diesel operation.

Model D-216-F Six-Wheel Vehicle is a six-wheel vehicle of 13,700 pounds carrying capacity (cab, body, equipment and payload) and designed as a complete unit. It is particularly well adapted for use in the hard work often prevailing in oil fields. It will be shown with body winch.

REPRESENTATIVES: R. W. Elliott, manager Tulsa branch and various branch managers and sales executives.

Oil Center Tool Company

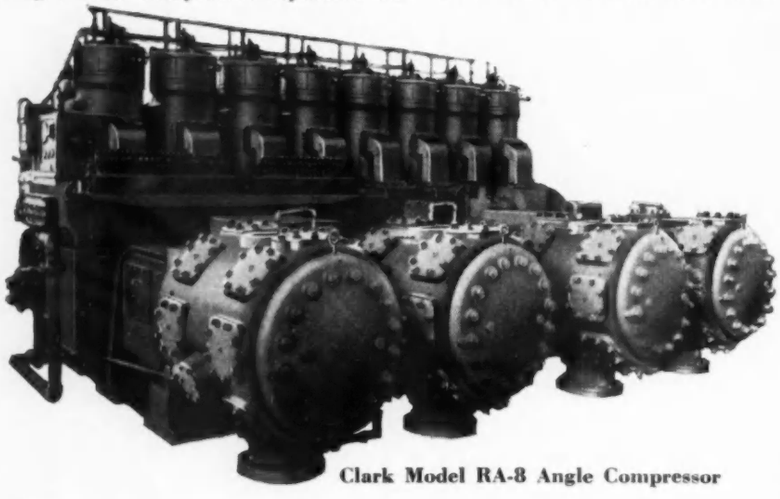
HOUSTON, TEXAS
Booth 38 Kansas Bldg.

EXHIBIT: Cylinder gate valves. Blow-out preventers. Casing heads. Tubing heads. High pressure fittings. Adjustable chokes. Quick-change chokes. Assembled and tested Christmas trees.

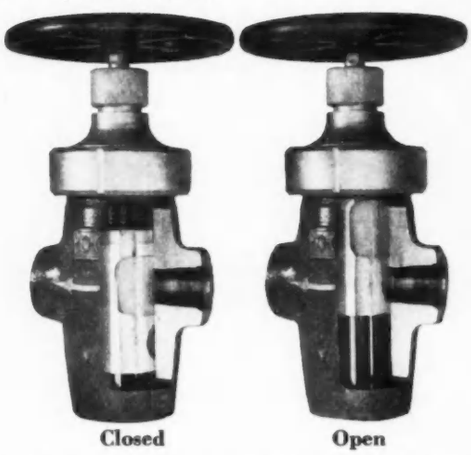
NEW PRODUCTS:

Cylinder Gate Valve—In this valve the cylindrical gate travels in the round bore of the valve body. A tapered sealing segment is inset in one side of the gate piston, and a taper is machined on the back side of this segment to mate with the taper on two wedge pins attached to the bottom of the valve body. Upon closing the gate, the tapered side of the pins contacts the taper on the sealing segment at its center point, resulting in an outward thrust in two directions, against the sealing segment in one direction and against the gate piston in the opposite direction. A flow-away, or conduit, is drilled through the lower part of the valve piston, which is raised opposite the flow outlets upon opening the valve. The design is intended to eliminate the possibility of sand or other foreign matter accumulating in the valve body. Moving parts are lubricated each time the valve is opened or closed. The entire valve is made of alloy steels.

REPRESENTATIVES: A. J. Penick; H. V. Start; B. V. Fisher; Walter Burke; Jim Hillman; Carl Mount and Jack Edwards.



Clark Model RA-8 Angle Compressor



Closed **Open**

Oil Center Tool Company's Cylinder Gate Valve

What Goes On Within

MOVIES PLAY AN IMPORTANT PART IN PETRECO PROCESSING

For many years Petreco Laboratory technicians have been making motion pictures of crude oil emulsions under the action of the electrical treatment. These in conjunction with photomicrographic "stills" and microscopic analyses reveal intimate characteristics of the various crudes; thus affording the most thorough and detailed study of every phase of emulsions and how they respond to different methods of dehydration.

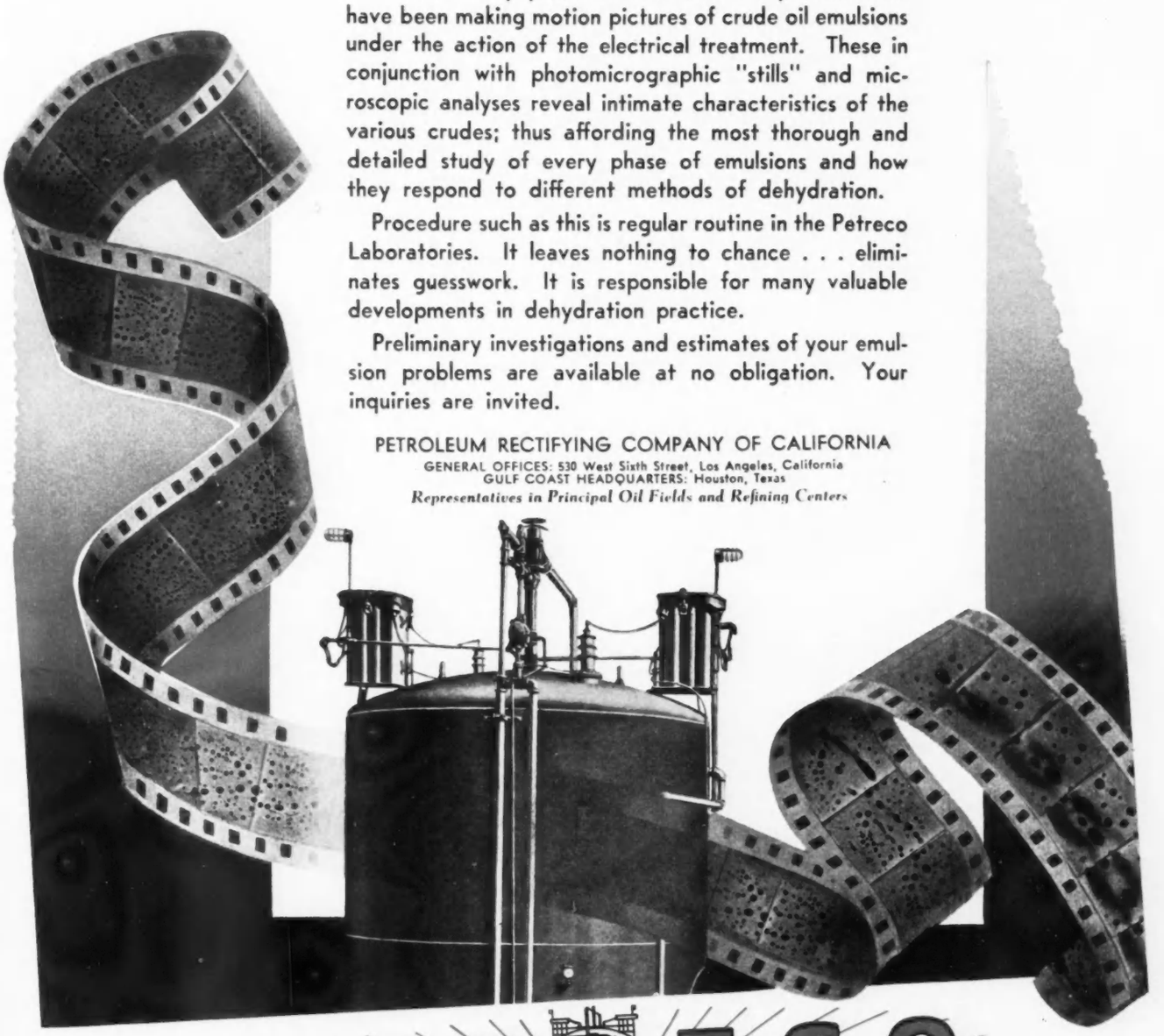
Procedure such as this is regular routine in the Petreco Laboratories. It leaves nothing to chance . . . eliminates guesswork. It is responsible for many valuable developments in dehydration practice.

Preliminary investigations and estimates of your emulsion problems are available at no obligation. Your inquiries are invited.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

GENERAL OFFICES: 530 West Sixth Street, Los Angeles, California
GULF COAST HEADQUARTERS: Houston, Texas

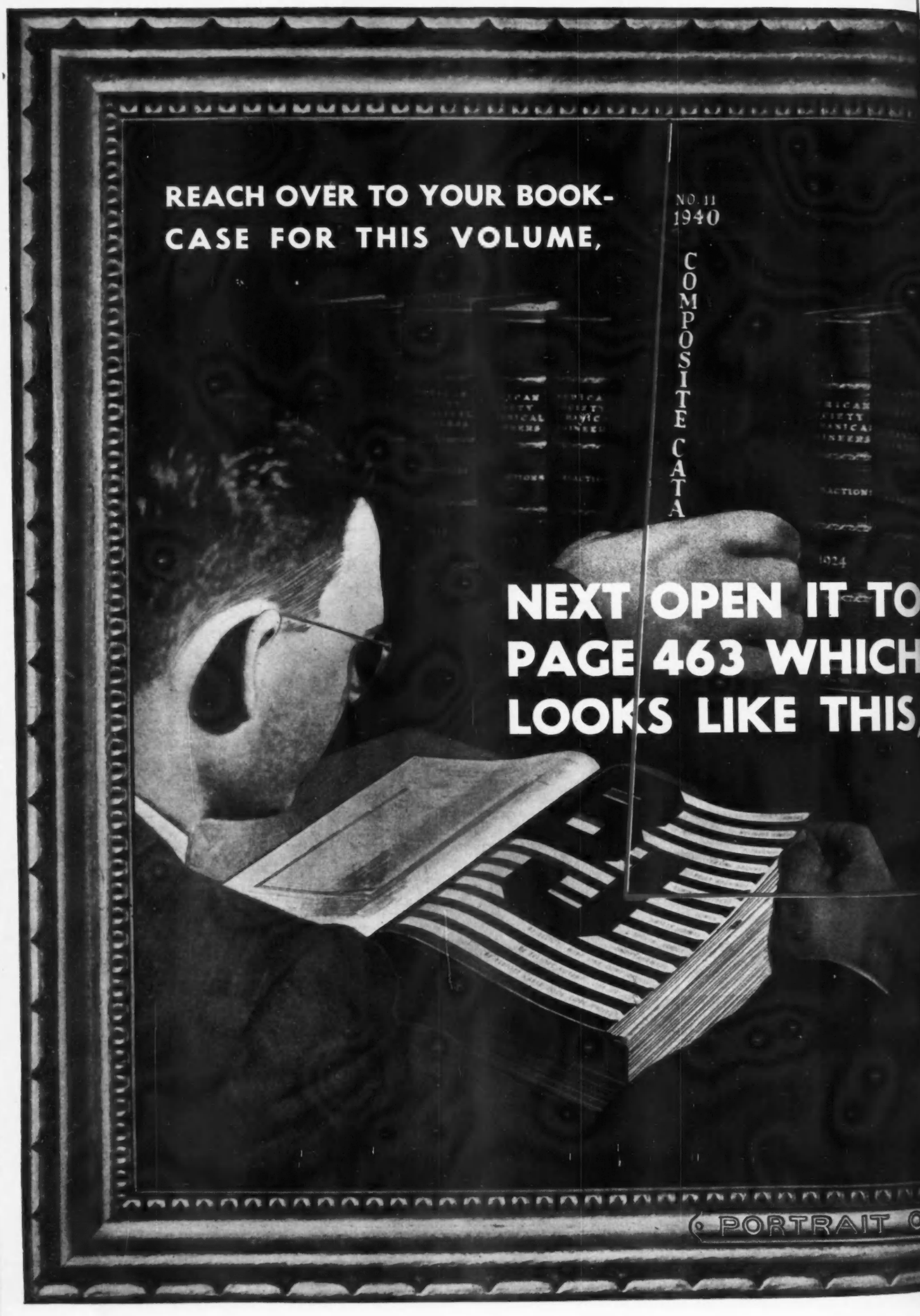
Representatives in Principal Oil Fields and Refining Centers



PETRECO

Electro matic

DEHYDRATION and DE-SALTING PROCESSES


REACH OVER TO YOUR BOOK-
CASE FOR THIS VOLUME,
NO. 11
1940
COMPOSITE CATA
1024
NEXT OPEN IT TO
PAGE 463 WHICH
LOOKS LIKE THIS,
PORTRAIT OF

ELAX AND TAKE TIME TO FIND OUT HOW GOOD
HESE PRODUCTION TOOLS REALLY ARE. THEN,
OBEY THAT IMPULSE—MAKE OUT A REQUISITION
ND GET STARTED TO DO A BETTER JOB.
J PRODUCTION TOOLS ARE MADE BY BYRON
ACKSON CO., Houston, LOS ANGELES, New York.

Y GOOD IDEA

Producing and Pipe Line Exhibitors at the

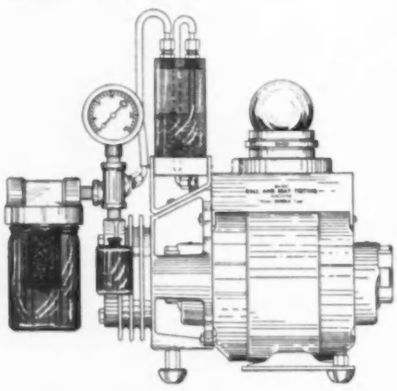
ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Baird Manufacturing Company

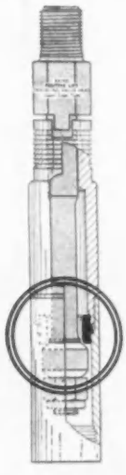
TULSA, OKLAHOMA
Booth 8 Texas Bldg.

EXHIBIT: Balls and seats. Drops and seats. Pump valves. Sucker rod sockets. Safety wheel wrenches for sucker rod twisting. Rig iron crank arm hole reboring machines. Expanso wrist pins. Wrist pin pullers. Taps and dies for cleaning and rechasing sucker rod pin and box threads. Oversize standing valves. Standing valve pullers, clutch type. V-Pac stuffing boxes for polish rods.

NEW PRODUCTS:



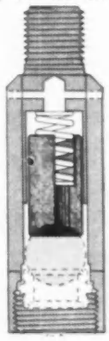
Ball and Seat Testing Machine—This is a mechanical means for testing the tightness of fluid seal check valves used in oil well pumps. When leakage occurs air bubbles rise in the water column to definitely show the inaccuracy of the fluid seal. This method is more accurate than could be had from tests made by a straight vacuum pull as small leakage does not cause a sufficient needle movement in the unitized inch gage to be caught by sight reading.



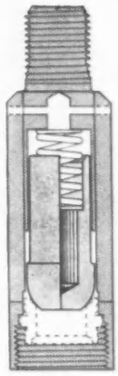
Positive Lift Traveling Valve, Upper Cage Type—For installation in combination with any oil well pump in wells to eliminate gas locks in the working barrel. The opening and closing of the fluid port is actuated by the sucker rod motion. On the down stroke the valve port opens causing the fluid to fill the working barrel and allows an unrestricted upward travel of the gas with the fluid. The valve is automatically closed on the sucker rod stroke reversal and then completes the means for fluid lift.

Tubing Parachute—This unit is intended to replace conventional tubing catcher in pumping wells having a high fluid level in the casing. Special oil proof composition rings are used to reduce the annular space between the tubing and the casing so that a fluid cushion is developed and should a drop occur the tubing string would practically float to bottom. The unit is also used to center the tubing in the casing and eliminate wear on the couplings. Has no working parts and nothing to be attracted by corrosion.

Ball Snubber Cages—The construction includes a bronze plunger in which a spring is housed to maintain continuous plunger contact with the ball. The purpose of the plunger is to reduce ball spin and hammering and insures quicker ball seating to complete the fluid seal closure for better pump lift efficiency.



Baird Ball Snubber Cage



Baird Snubber Drop and Seat

Snubber Drop and Seat—Replaces the Ball and Seat in the Traveling or the Standing valves equipped with Snubber type cages. The Drop includes a cylindrical plunger which operates in a piston housing in the cage to snub the upward travel and a spring to hurry the return seating following the pump stroke reversal. The design is particularly adapted for use in the larger size tubing and casing pumps.

Valve Seat Puller—Designed for the removing of seats out of the conventional pump body. The extended fingers on the slip reins engage under the seat and are held in operating position by the tapered end slip spreader. Snapping the slidable hammer against the top stop bushing then develops the required jarring to remove the seat.

REPRESENTATIVES: O. B. Leonard, J. B. Cook, L. Robinson, C. Kenneth Smullen, Ted W. McCuiston, C. M. Williams, L. L. Paul, L. C. Holloway, L. D. Baird, W. W. Kinnison, R. B. Hammond.

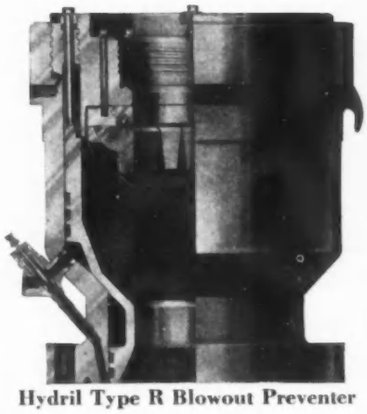
Hydril Company

LOS ANGELES, CALIFORNIA
Booths 20-22 California Bldg.

EXHIBIT: Blowout prevention equipment, including Type R blowout preventer, Type C-P blowout preventer and a full line of casing, tubing and drill-pipe plugs designed to close off the passage through the pipe under high-pressure conditions. Cutaway samples showing construction of drill pipe joints, casing joints and tubing joints.

NEW PRODUCT:

Type R Blowout Preventer is designed so as not to contact the drilling bit or any other drill string member during drilling without well pressure.



Hydril Type R Blowout Preventer

When a blowout threatens, the preventer is closed on the kelly, drill pipe or tool joint, whichever happens to be in the bore of the preventer at the time.

REPRESENTATIVES: Earl M. Daniels, general sales manager; B. L. Stone, general manager; R. L. Engstrom, chief engineer; J. B. Magoffin, Claude Banta, Chet W. Whaley, Allan S. Hicks, W. O. Moore, George B. Flemming, C. E. McCarthy and J. Gordon Bird.

Electric Hose & Rubber Company

WILMINGTON, DELAWARE
Booth 72 Kansas Bldg.

EXHIBIT: High-pressure hose for core and rotary drilling. Hose for refinery operations, and all types and sizes of hose for handling petroleum products from the tanker to the filling station.

NEW PRODUCTS:

High-Pressure Hose for core and rotary drilling described as lighter and stronger than former types.

REPRESENTATIVES: George T. Hamann, southwest manager, and Vern Wells, Chicago branch manager.

Halliburton Oil Well Cementing Company

DUNCAN, OKLA.
Lot K, Outside

EXHIBIT: Halliburton "Jeep" five-curve electrical logging device. Echometer fluid level metering device. Well-treating acids. Calseal gypsum cement. Halliburton-Yowell removable cementer. Cementing pumps and other cement equipment.

NEW PRODUCTS:

Echometer is a device for determining the fluid level in wells by recording reflection of sound waves from tubing collars and tubing catchers. It is used in well efficiency studies and "draw-down" type of potential determinations.

Halliburton-Yowell Removable Cementer, for use on all single and multiple stage liner jobs and high pressure squeeze jobs through shot holes or special cementing collars, is removed from the hole when cementing operations are finished. It consists of an outer barrel incorporating a series of high pressure pack-off rubbers for packing off a section of the casing on both sides of the cementing point, and an inner telescopic member that provides control over the direction of flow of the fluid circulation. Slips provide a means for anchoring during various stages of cementing operations. It is run on either tubing or drill pipe.

Calseal Cement is a special material made of gypsum, which sets into a hard, rocky mass in a predetermined period of time. In standard form it has a setting time of approximately two hours, but may be obtained on special order to set at other periods, such as one hour, etc. It sets and hardens to full strength practically at the same time and will set under agitation. It has been used for killing blowouts, various bridge plug use, shot tamps, etc.

REPRESENTATIVES: C. P. Parsons, vice president, and various key men.

International Derrick and Equipment Company

COLUMBUS, OHIO
Block 3 Outside

EXHIBIT: Twin crank pumper equipped with full W-O wheel type cranks and a needle roller bearing type rein hanger. A needle roller type bearing being actuated in the true oscillating motion of a center iron bearing and having a portion of the housing cut away to reveal action of the rollers. Ideco 85 streamlined reducer. New clamp type upper pitman bearing. New type of cable clamp.

NEW PRODUCTS:

Twin Crank Pumper with full circle W-O wheel type cranks and a needle roller bearing type rein hanger. This unit also shows use of a new clamp type upper pitman bearing, whose housing is especially designed for ease in assembling in the field. The pumper also features a safety guard around the cranks and prime mover, which is covered with galvanized wire mesh. A modern convenience is provided in the form of a theft-proof tool box mounted under the samson post and entirely out of the way. The tool box is of welded construction and is equipped with a hasp and staple for locking. An Ideco safety cutout switch is mounted on the walking beam. A modern note has been struck in the new tear-drop design of this switch housing. Thought has been given to its ease of installation, it being possible to clamp the switch in any location desired without field fabrication. A new type of cable clamp also may be seen.

Ideco 85 Streamlined Reducer is mounted on a cast sub-base. This unit also displays a new design of cast prime mover rail, which permit a greater range of adjustment and adapt themselves readily to any type of prime mover.

REPRESENTATIVES: O. M. Havekotte, C. R. Athy, J. M. Aitken, R. R. Bloss, E. H. Eddleman, J. A. Tidball, C. M. Powell, F. E. Suder, R. D. Ekstrand and Van Rogers.

Republic Rubber Division Lee Rubber and Tire Corporation

YOUNGSTOWN, OHIO
Frick-Reid Bldg.

EXHIBITS: Mechanical rubber products.

NEW PRODUCTS:

Champion Full-Flow Rotary Hose—New built-in, full-flow couplings entirely eliminate metal from the bore of the hose and thereby reduce all danger of leakage and failure due to cutting out of nozzles. They form an integral part of the hose through permanent mechanical anchorage to the reenforcement wire, each layer of the metal hose member being carried up and over clamping segments attached to the built-in sleeve. The wires are then turned back, extended into the body of the hose and bound down with a close-spaced metal helix, giving extra reenforcement to the end section.

Republic's Champion Full-Flow Rotary Hose

REPRESENTATIVES: N. M. Grove, district sales representative; A. W. Carriere, district sales representative; C. H. Zieme, service engineer.

American Sand-Banum Company, Inc.

NEW YORK, NEW YORK
Booth 101 Texas Bldg.

EXHIBIT: Sand-Banum Standard. Sand-Banum Blue Seal Emulsion Sand-Banum Special.

REPRESENTATIVE: Frank J. Welu, division manager, and others.

Marshalltown Manufacturing Company

MARSHALLTOWN, IOWA
Booth 64 California Bldg.

EXHIBITS: Pressure gauges for all purposes. Display of gauges designed especially for drilling and producing work, including blackface mud gauge, boiler and feed pump gauges, Christmas tree gauges, hydraulic gauges, permagage, gas engine fuel gage, heavy duty lubricating oil gauge, synchronizing vacuum gauges for engines, etc.

NEW PRODUCTS:

Blackface Mud Gauge — Blackface dial with white numerals and graduations provides ease of reading under any lighting conditions. The instrument is actuated by a single joint steel Bourdon tube. The movement is of Monel metal. The bottom piece of stainless steel and the mounting is dust and moisture proof. The gauge and diaphragm assembly are completely filled at the factory with a rust-resisting, non-freezing liquid for pressure communication.

Blackface Mud Gauge

REPRESENTATIVES: M. T. Kappele, G. F. Ruopp, J. M. Considine.

The Continental Supply Company
DALLAS, TEXAS

Broderick & Bascom Rope Company
ST. LOUIS, MISSOURI

Clayton, Mark & Company
CHICAGO, ILLINOIS

Climax Engineering Company
CLINTON, IOWA

Dayton Rubber Manufacturing Company
DAYTON, OHIO

Emsco Derrick & Equipment Company
LOS ANGELES, CALIFORNIA

D. & B. Pump Division
LOS ANGELES, CALIFORNIA

Fairbanks, Morse & Company
BELOIT, WISCONSIN

Farrar & Trefts, Inc.
BUFFALO, NEW YORK

Gardner-Denver Company
QUINCY, ILLINOIS

The Lunkenheimer Company
CINCINNATI, OHIO

The Mechanical Rubber Company
PASSAIC, NEW JERSEY

New Bedford Cordage Company
NEW BEDFORD, MASS.

Westcott Valve Company
EAST ST. LOUIS, MISSOURI

Youngstown Sheet and Tube Company
YOUNGSTOWN, OHIO

EXHIBIT: Drilling and production equipment produced by the affiliated manufacturing companies of The Continental Supply Company. A new extra-heavy steam drilling rig is rigged up and in operation, with all component parts exposed for inspection. In addition, a drilling unit for shallow depths will be in operation. Three oil well pumping units covering a range of sizes from shallow to deep wells that incorporate latest designs. Pipe line pumping units particularly adaptable to gathering systems, general line work, or pipe line stations. Specific items displayed follow:

Broderick & Bascom wire rope for drilling lines, sand lines, rod lines and winch lines, and Yellow Strand safety plaited slings.

Clayton, Mark & Company Handlebar, Mark Hydro and Petro unions, and the Handlebar Check union.

Climax Engineering Company's R-8-I drilling engines.

Samples and photographs of Dayton V-belts and cog rope.

Emsco 136-foot bulge type derrick; new ED4-60L drawworks; new Hydro-Brake valve; JBS-20½ rotary machine; new type "M" crown and traveling blocks; Type H Swivel; P150 drawworks; auxiliary drilling engine drive.

Continental CD38-32TH5 unit pumper; CD58 unit pumper.

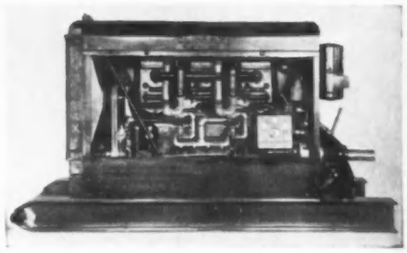
D & B Pumps with cutaway parts; general line of surface and subsurface pumping accessories; sucker rods; pull rods.

Fairbanks, Morse Type "Z" engine; ZC engine; deep well head; ejector pump; rotary pump; 2500-gallon typhoon pump; four-inch stroke power pump.

Farrar & Trefts oil country boiler.

Gardner-Denver 16¼ x 8 x 20 duplex steam slush pump; 7¼ x 12 power slush pump; 9½ x 8 vertical steam engine.

Emsco Hydro-Brake Valve for Controlling Speed of Hydromatic Brake



Climax R-6-I Drilling Engine

Full line of Lunkenheimer valves, including bronze, iron and steel types; three-chime whistle.

New Mechanical Rubber Company built-in coupling rotary hose; steam manifold hose; slush pump suction hose; packing; belting.

New Bedford cordage, including spinning lines, cat lines, drilling cable and bull rope.

Westcott Valve Company Christmas tree hookups, drilling valves, gate valves, flow valves, check valves and other valves.

Youngstown Sheet and Tube Company casing, tubing, drill pipe and line pipe; Hydril drill pipe and Youngstown speed-tite casing; Yoloy tubing.

NEW PRODUCTS:

Mark Handlebar Union—An important improvement in this union is the new Acme high speed thread, which shortens the time in connecting and disconnecting, permiting making-up and breaking-down with greater ease.

Climax R-8-I Drilling Engine—These engines are displayed as a prime mover on an Emsco P150 portable drilling unit and a 7¼ x 12 Gardner-Denver slush pump. These engines are especially designed and built for rotary drilling service. They utilize both butane and natural gas as fuels and are equipped with dual ignition, electric starting, telegraphic throttle control and automatic safety devices.

Emsco Bulge Type Derrick—The unit shown is 136 feet tall and is mounted on a substructure. Built around this derrick and in actual operation is a heavy duty steam drilling rig.

Emsco ED4-60L Drawworks, which is in operation on Continental's steam drilling rig, has steel fabricated posts, extremely short bearing centers and built-in bearing boxes to provide a strong and rigid unit. All drives throughout pressure section are lubricated and totally enclosed. The 60-inch brake rims are water cooled with a force feed circulating system. Conver-

GOING FISHING— FOR A LIVING

It's that time of the year when everybody from the chairman of the board to the office boy has either gone fishing, is getting ready to go, or is talking about it. It's the thing to do . . . if you can make it . . . whether it's deep sea trolling, mountain creek rod and reel, or the bayou cane-pole variety. We'd like to take off too, but we're too busy with another kind of fishing. We fish for a living!

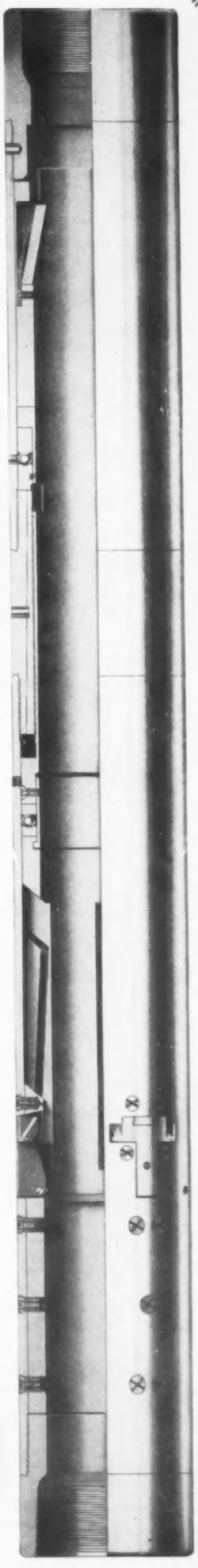
There are 30 Brown Service Automobiles rolling along oil field roads today in the interest of somebody's trouble job. Each one of them is in the hands of an experienced fishing tool operator. Each car is equipped to carry specialized tools designed and built to solve individual problems. Each operator has available a line-up of trouble-shooting tools capable of handling every conceivable fishing job known to the oil country. Take the Brown Outside Drill Pipe Cutter, for example. On a single trip in the hole it cuts and recovers as many feet of stuck drill pipe as can be washed over. Or, the Brown small diameter Inside Cutter which runs through drill pipe when an inside cut is preferable. These and the many other Brown tools are your assurance of fishing tool dependability, determined by: (1) quality material, (2) ruggedness of design, (3) precision manufacture, (4) principle of operation, (5) careful, regular inspection, (6) constant maintenance, and (7) experienced, skilled operators.

A Brown Fishing Tool Operator is located in your district, available on your next trouble job on short notice. See pages 427-446, your 1940 Composite Catalog.

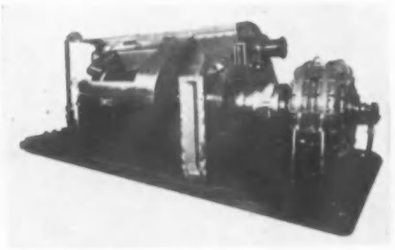
BROWN

OIL TOOLS, Inc.

HOUSTON, TEXAS, U·S·A·



See this Brown Outside Cutter (formerly the Abercrombie RED BALL) at the [illegible] Oil Show, Brauer Exhibit, Section



Emsco ED Drawworks with Hydromatic Brake and Disengaging Coupling

sion from three to four speed operation, or vice versa, can be made conveniently at any time.

Emsco Hydro-Brake Valve is a new development which controls the water level in the hydromatic brake, thereby governing the speed of braking. The hydromatic brake, in operation on the rig, also is provided without cutout couplings which may be disengaged when the brake is not needed.

Emsco JBS 20½-Inch Rotary Machine has a fabriform base, which offers great strength and light weight. Totally enclosed, the double tongue and groove mud seal effectively excludes mud and retains the oil. The main bearings are tapered cones inclined to an angle of 45° to facilitate centering the table, giving long wear while handling heavy loads. The table exhibited has spiral beveled gears recommended for high speed drilling, although a straight type bevel gear is available if desired.

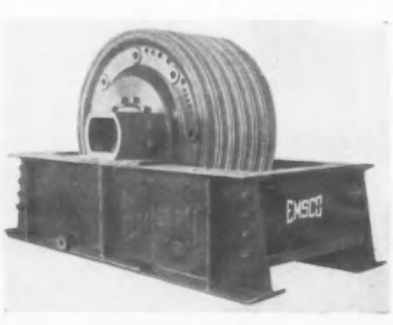
Emsco Type M Crown and Traveling Blocks provide greater clearance space for pipe racking, and operations in general are speeded up, because of their extremely narrow design. A 19-inch drum is used as mounting for the roller bearings in both the crown and traveling block. The inner race can be turned at any desired angle to present a new surface when wear occurs, thus greatly extending the life of the bearings.

Emsco Type H Swivel is a heavy one-piece steel casting so designed that all bearings are rigidly supported to eliminate destruction under heavy loads. All loads are taken directly on the body without tension on body bolts, an aid in eliminating oil leakage, eccentric loads and its consequent distortion. All bearings are submerged in oil. Two radial roller bearings, located as far apart as possible—one above and one below the main bearing—maintain proper sleeve alignment. A self-sealing type chevron packing which automatically conforms to different pressures gives perfect sealing around the wash pipe with a minimum of wash pipe wear.

Emsco P150 Drawworks is an inexpensive, light, easily handled unit for depths not exceeding 3000 feet. A friction clutch on the drumshaft as well as a friction rotary clutch gives smoothness in handling all drilling operations. A Type A brake with a simple equalizer and safety bolts provides a brake system that is easy and smooth in operation.

Emsco Auxiliary Engine Drive—With this transmission, the auxiliary steam engine can operate either the rotary machine or may be combined with the main engine to afford reserve power when hoisting extra-heavy drill strings. In case of a breakdown of the main engine, this auxiliary standby engine can perform the duties of the disabled engine. Using this auxiliary engine to operate the rotary table in place of the main engine provides steam economy due to an automatic cutoff device. If the auxiliary engine should fail it may be bypassed while the rotary table is operated by the main engine.

Emsco Series M-50 Traveling Block



Emsco Series M-50 Crown Block

Continental CD38-32TH5 Unit Pumper is designed for use on light wells where a lower priced yet dependable single unit is required. The unit is completely self-contained and requires only the most inexpensive foundation, yet retains the feature of good design found in larger more expensive models. The double reduction reducer is equipped with herringbone gears and is mounted on steel shafts which in turn are mounted on roller bearings. Short bearing centers insure minimum shaft deflection. The reducer case of box

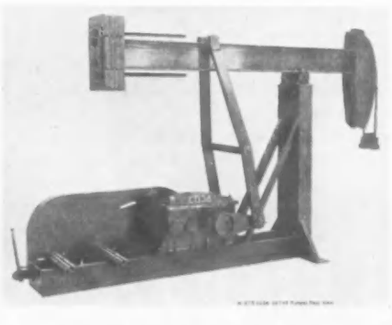
Emsco P-150 Drawworks

type cast iron construction is rigidly designed, has a substantial cover plate with adequate gaskets, and is properly vented. Both the gears and gear reducer bearings are partially submerged in oil, insuring adequate lubrication. Shaft extensions are provided with oil and dust seals to provide leakage or entrance of dust into the case. The main base and samson post form a unit, these two members being rigidly welded together and supported by two angle braces. The walking beam has a provision for beam counterbalancing and is equipped with a wire line head for servicing. Needle roller bearing construction is utilized in the walking beam center iron bearing.

Similar design is used in the CD58 Unit Pumper, which is a larger size capable of pumping medium depth wells.

Fairbanks, Morse Type ZC 118 Engine—This is a completely redesigned and modernized new Type "Z" engine that retains the lines of the original model but with new features that give it greater dependability and widen range of service. Some of the improvements include an automatic vapor cooling system, splash-proof enclosed lubrication system, diachrome valves with alloy exhaust insert seats, improved type governor, combination gas-gasoline carburetor, and extra-heavy fly wheels.

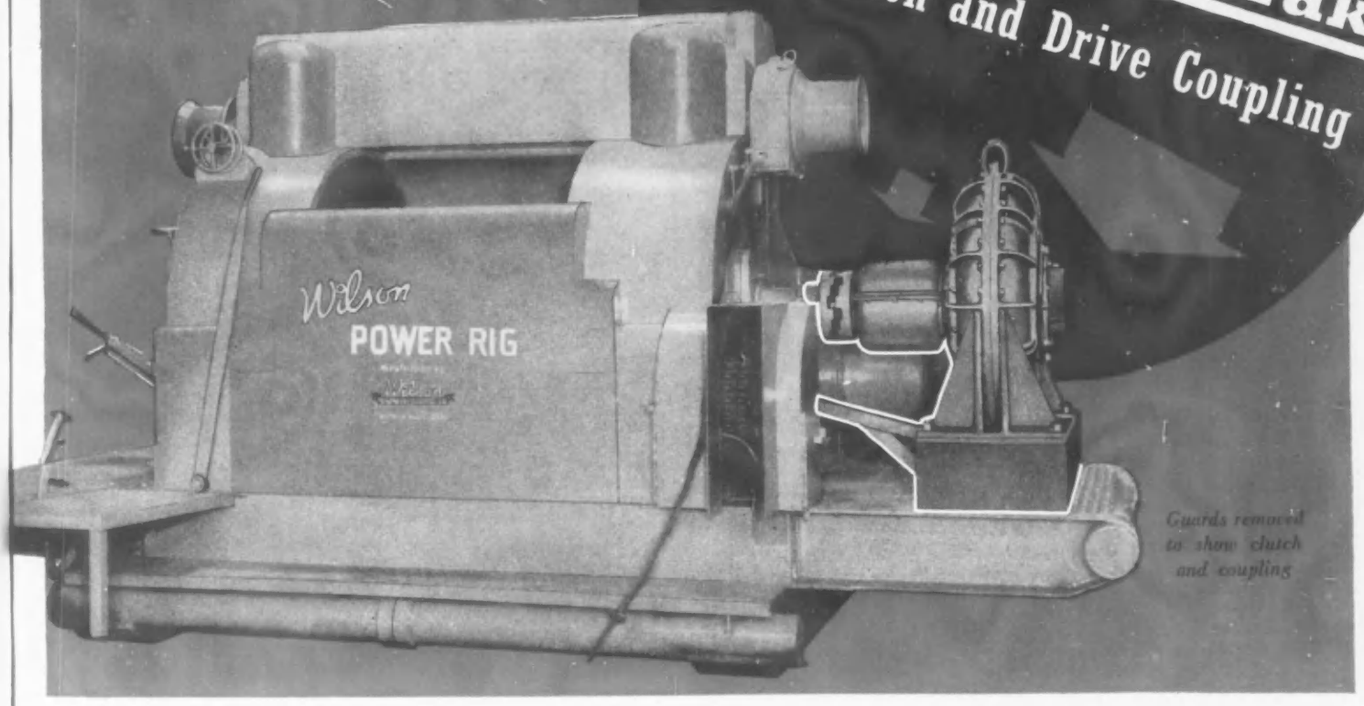
Farrar & Trefts 150-Horsepower Boiler is made with slanted firebox sides, the bottom of the firebox being six-inches wider than the top, giving a 3-inch slant on each side. The outer wrapper sheet also has a 2-inch slant on each side, thus giving a water leg of increasing width—four inches wide



Continental CD38-B32TH5 Pumper

One of the Most Important Improvements on Wilson Streamlined Rigs . . .

Wilson Cradle Mounted Hydromatic Brake with Clutch and Drive Coupling



Guards removed to show clutch and coupling

Time Saved in Coming Out of Hole... Equivalent to 300 Extra Horse Power!

Here is one of the greatest time savers ever developed for a rotary drilling rig—the Wilson Cradle Mounting for Hydromatic Brake with Clutch and Drive Coupling. Uses standard Hydromatic Brake—cradle mounting furnished by Wilson.

In actual operation, with the hydromatic brake mounted directly on the drum shaft, it took about 45 seconds to drop the empty blocks when pulling 90-foot stands of pipe, as compared to only 15 seconds with the hydromatic brake disconnected, or a saving of 30 seconds for each 90-foot stand of pipe when coming out of the hole—equivalent to 300 extra engine horse power!

Equipped with clutch lever at driller's control position, this Hydromatic Brake *can be disconnected at all times when coming out of the hole; and when lifting empty blocks, when going in the hole.* Greatly speeds up both operations and saves wear and tear on Hydromatic Brake, engines and entire equipment. The only rig with Hydromatic Brake clutch control at driller's position!

This rig, owned by Pettijohn Drilling Company of Los Angeles, made a round trip at 8300 ft. with 4½" drill pipe in 2 hours and 30 minutes with 2 Le Roi 350 H.P. Engines. Can you beat this!

Wilson
MANUFACTURING CO. INC.
WICHITA FALLS, TEXAS

Wilson Sets the Pace!

- EXPORT REPRESENTATIVE: Guy E. Daniels, 30 Rockefeller Plaza, New York City.
- PACIFIC COAST DISTRIBUTOR: H. and B. Sales Co., Ltd., Long Beach, California.

at the bottom and five inches at the top. This new design is said to provide accelerated water circulation in the hottest part of the boiler to give quicker steaming. Steam bubbles rise vertically through the water instead of along the firebox sides, eliminating possibilities of an insulating "steam jacket" being formed along the firebox walls. The wide bottom also enables the installation of larger burners to provide a maximum amount of heat for speed steam generation.

All-welded construction is another modern feature. The boiler has no riveted joints, no plate overlaps or buttstraps of any kind. This reduces the weight, and is said to provide lower upkeep expense, and easier cleaning.

Gardner-Denver 16¼ x 8 x 20 Duplex Steam Slush Pump has a divided fluid cylinder construction with large, streamlined fluid passes to provide smooth flow of fluid. Other features include balance piston type valves and roller bearing steam valve motion with large telescopic levers. The steam cylinders are of special close grain alloy castings, the cylinders and cradle casting being an integral unit.

Lunkenheimer Valves—New alloys have been developed which provide longer wearing seats. This applies to the full line of Lunkenheimer valves, which range from oil field boiler purposes to refining installations.

Mechanical Rubber Built-In Coupling Rotary Hose has an integral coupling as part of the hose. It is leak-proof under high drilling pressure and is perfectly streamlined, eliminating flanges, nozzles, bolts, nuts, clamps and hydraulic nozzles.

Mechanical Rubber Steam Manifold Hose and Slush Pump Suction Hose—The use of mechanical rubber hose for these purposes is new.

Youngstown Yoloy Tubing is a new high yield and tensile strength tubular products that also provides exceptional resistance to corrosion.

REPRESENTATIVES: From The Continental Supply Company: W. J. Morris, president; F. M. Mayer, F. I. Brinegar, vice president; W. G. Fitzpatrick, manager of sales; N. A. Endicott, assistant manager of sales; J. A. Mussler, manager tubular sales; Chas. W. King, manager pipe department; A. J. Olson, chief engineer; J. C. Slonneger, assistant chief engineer; R. L. Middleton, director of purchases; C. N. Cwanson, F. H. Thrailkill, E. N. Wood, R. A. Brewer, C. H. Fischer, M. D. Smith, district managers; D. A. Davis, C. H. Meyer, district sales managers; F. L. Convers, vice president, foreign sales subsidiary.

From Broderick & Bascom Rope Company: David Larkin, vice president and general manager; Fred Zimmerman, sales manager; M. R. Gayle, Mid-Continent sales manager; E. E. Deacon, L. R. Saunders, J. Grubb, salesmen; A. E. Glick, Donald E. Dickey, engineers; K. B. Britt, Geo. T. Born.

From Clayton, Mark & Company: Ora C. Cox, manager Union sales; Bruce Cox, sales representative.

From Climax Engineering Company: E. F. Deacon, president; H. A. Hansen, representative.

From Dayton Rubber Manufacturing Company: K. H. Glanton, vice president; T. C. Davis, sales manager; E. F. Spore, district sales manager; R. Wetzel, advertising manager; J. Hershey, assistant advertising manager; R. Hohman, sales representative.

From Emsco Derrick & Equipment Company: H. H. Glen, president; G. W. Walton, vice president and sales manager; W. D. Davidson, vice president and chief engineer; Dave Smith, assistant chief engineer; Wm. C. Kinder, sales manager, California D. & B. division; J. Zumeta, engineer; L. B. Anderson, engineer; S. W. Webster, assistant sales manager; Paul Courtney, C. L. Lamkin, H. J. Johnson, L. W. Stahl, E. M. Horn.

From D & B Pump Division: R. B. Stanbery, manager of sales; W. G. Reed, C. C. Stout, representatives; R. M. Bolieau, assistant manager of sales; J. C. Riley, Jr., L. G. Wood, C. W. Ligon, D. A. Free, D. P. Maley, representatives; G. I. Calvert, metallurgist.

From Fairbanks, Morse & Company: H. J. Renken, manager oil field division; F. P. Grutzner, assistant chief engineer; M. B. MacNeille, manager hydraulic and dealer department; W. Moore, manager general Diesel sales; F. D. Ratcliffe, H. D. Gobble, W. S. Johnson, salesmen; W. Moore.

From Farrar & Trefts, Inc.: John C. Trefts, president; S. Mensonides, vice president.

From Gardner-Denver Company: H. G. Myers, president; E. F. Schaefer, vice president; R. J. MacFarland, sales manager; G. J. MacFadden, chief engineer; H. K. Pinkerton, oil field engineer; J. A. Van Doorn, Tulsa manager; R. J. Bauer, special representative.

From the Lunkenheimer Company: H. A. Burdorf, vice president in charge of sales; P. Lunken, R. E. Lunken, M. N. Stickel, J. A. Birkhead, H. R. Davis, E. R. Tieberman, H. H. Layritz, sales representative.

From The Mechanical Rubber Company: W. E. Belcher, district sales manager; C. A. Franklin, Jr., and L. M. Deutsch, salesman.

From New Bedford Cordage Company: Geo. N. Hundinger.

From Westcott Valve Company: A. V. Wadsworth, executive vice president; L. L. Scharf, assistant treasurer; W. C. Wadsworth, H. H. Tinch, W. B. Chapman, R. W. Henson, representatives; A. J. Vollmer, factory representative.

From Youngstown Sheet and Tube Company: M. S. Curtis, sales promotion manager; C. H. Longfield, general manager of sales; E. P. Corey, general manager tubular sales; G. W. Christopher, assistant manager tubular sales; J. C. Siegle, field engineer tube division; Don Langan, representative; G. V. James, exhibit attendant.

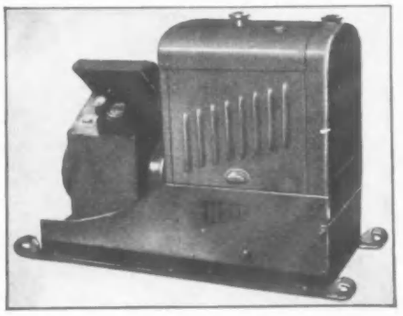
Novo Engine Company

LANSING, MICHIGAN
National Supply Bldg.

EXHIBITS: Novo pumper engine, Model CWP. Novo engine-driven air compressor. Novo generating set.

NEW PRODUCTS:

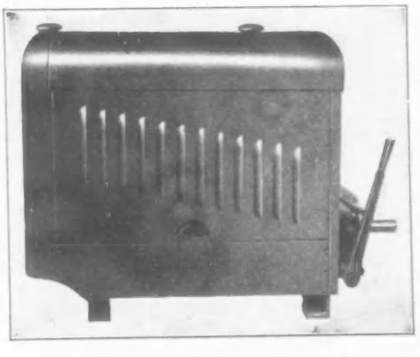
Novo Oil Field Light Plants—Portable, having sturdy steel skids with end loops. They can be furnished on trucks. The power units can be equipped with



Novo Light Plant

combination gas-gasoline carburetor. Completely weatherproof with cover over the new super safe switchboard. These generating sets are built in 15 different sizes powered with air or water cooled gas and gasoline engines or by Diesel units.

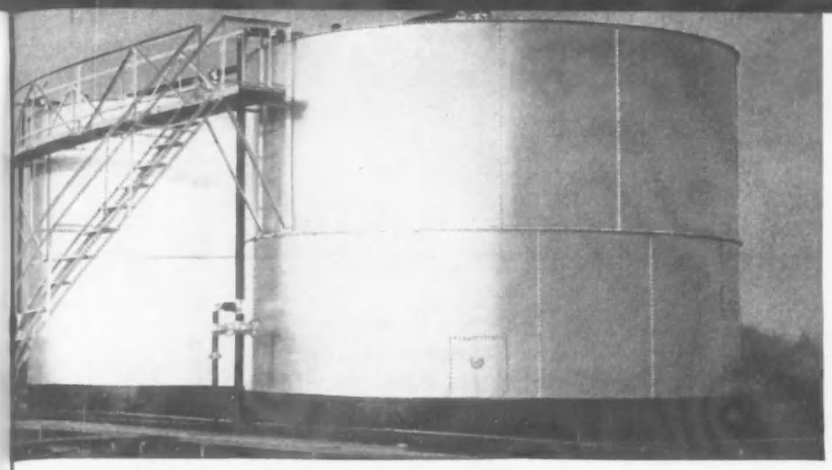
Novo Oilfield Pumper Engines—Sizes from 2 to 22 horsepower. Completely equipped with extra large anti-friction bearings. The crankshaft is exceptionally heavy and rigid. The four cylinder engines have three anti-friction main bearings. Tapered roller

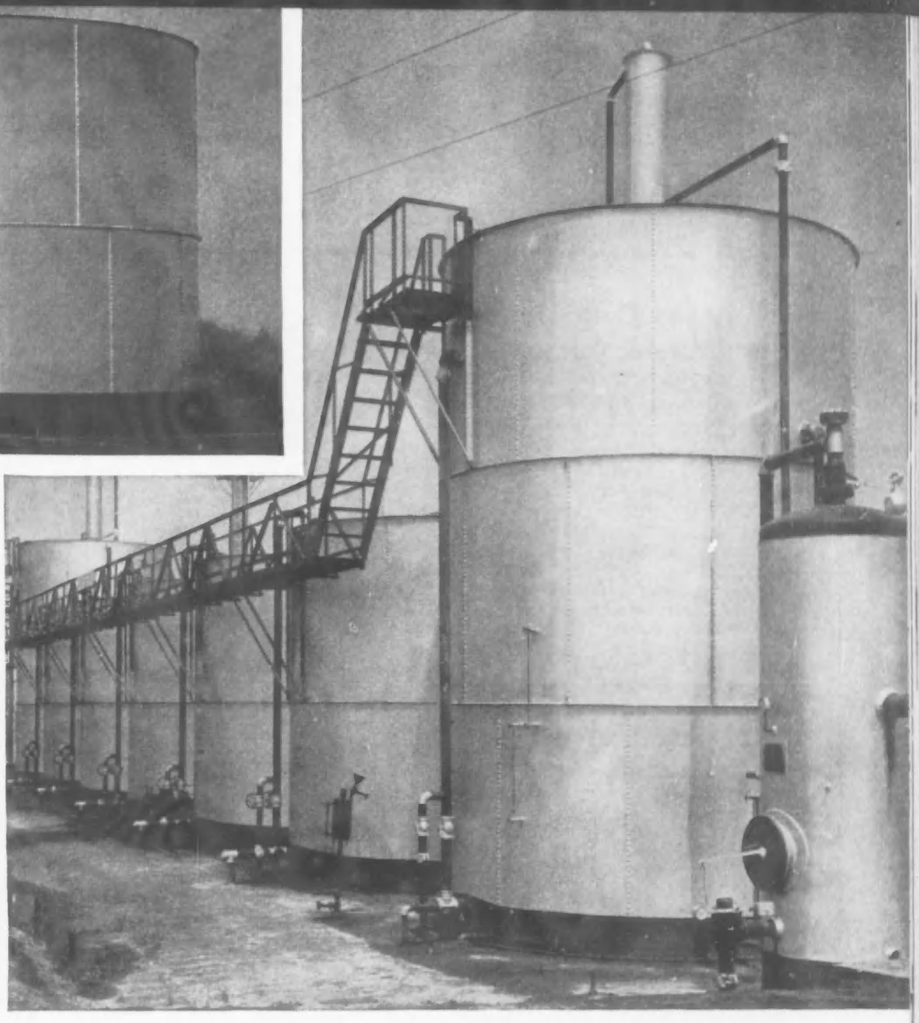


Novo Oilfield Pumper Engine

bearings are used in the end position to carry any thrust load. Heavy flywheels give smooth operation at all speeds and under varying load conditions. Large oil and gasoline capacities allow for long periods of operation without attention from the operator. Gear oilers driven from the crankshaft. The engines conform to all S. A. E. standards including accessories.

REPRESENTATIVES: Norman H. Boardman, Robert B. Harvey.



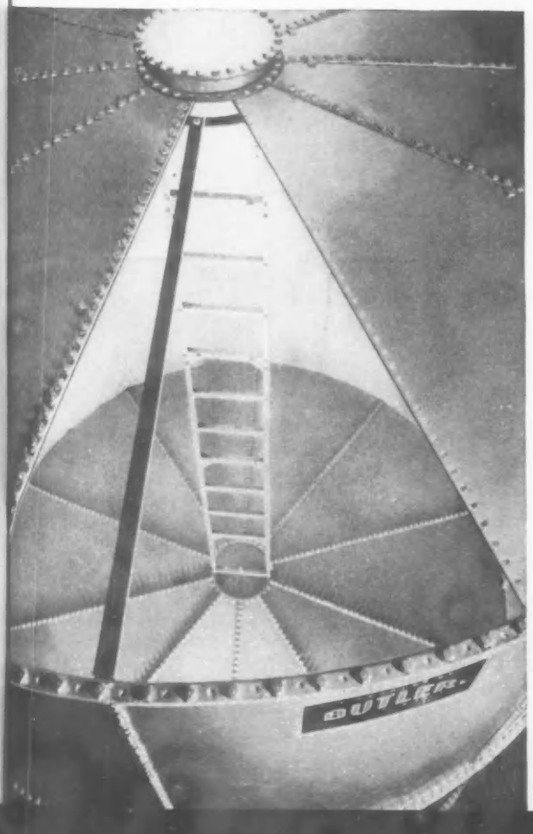


Made Stronger to Last Longer

BUTLER

BOLTED TANKS

5,000 and 10,000 Barrel Sizes Also Carried in Stock for 2nd and 3rd Day Delivery TO MOST FIELDS!



"Better Buy Butler because Butler is the better buy." That is what any user of Butler Bolted Tanks, Runways and Stairways will tell you. A look at the inside picture shows how Butler's are made stronger to last longer. There is extra strength in the center-to-side-wall-seams that join the pie-shaped sections of both bottom and deck. Generous lapping of all seams, channel steel reinforcing of seams and high-tensile, heat-treated bolts add more extra strength. Note, too, how the stronger pie-shaped deck is supported on angle iron rafters and heavy center ladder to do away with wavy, springy decks.

Better Buy Butler. You'll get a better buy from every standpoint and you can depend upon the widespread Butler Field Organization for fast day and night service from strategically located stocks — most of them including the larger 5000 and 10,000 barrel sizes. Write, wire or phone your Butler distributor or nearest Butler office.

Up-To-The-Minute *Streamlined* BUTLER TRUCK TANK

See It On Display—HALL of SCIENCE—International Petroleum Exposition.

BUTLER MANUFACTURING COMPANY

1246 EASTERN AVE. KANSAS CITY, MISSOURI

BUTLER MFG. COMPANY of TEXAS, 3113 Leeland, Houston, Texas

BUTLER MFG. COMPANY of LOUISIANA, 309 Ricou-Brewster Bldg., Shreveport, Louisiana

E. I. Du Pont De Nemours & Company, Inc.

WILMINGTON, DELAWARE
Booths 159-164 Oklahoma Bldg.

EXHIBITS: Chemical contributions to the petroleum industry. Neoprene, nitroglycerin, explosives, paints, wood preservative. "Nitramon" S, high velocity gelatin. Neoprene rotary, dock and gasoline pump hose, packers, stripper rubbers, and valve cups. "Seismogel" and "SSS" electric blasting caps. Nitroglycering shells. Squibs. AG time bombs. Experimental shot recorder. Miniature reeling equipment demonstrating lowering of explosives into an oil well.

REPRESENTATIVES: Paul F. Lewis, W. E. Danley, George L. Wright, Hill B. Wellford, W. E. Donaldson, J. J. Heffernan, W. A. Seyffert, R. S. Harding, W. E. Lawson, W. C. Holmes, F. H. Crawford, H. H. James, T. J. Mitchell, Allen F. Clark, L. S. Bake, H. L. Lawrence, S. J. Daly, W. S. Armstrong, Jr., E. H. Rieman. Two representatives from John Powell & Company, New York City.

The Cavins Company

LONG BEACH, CALIFORNIA
Booths 26-27 Kansas Bldg.

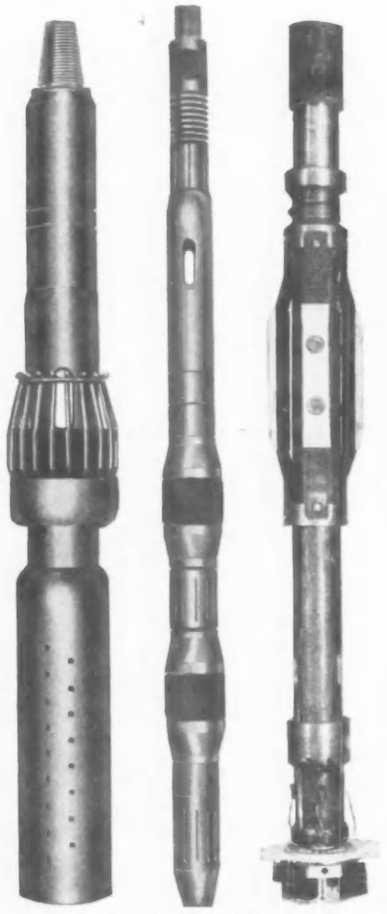
EXHIBIT: Cement dump bottom. Tubing swab. Perforation swab. Hydraulic suction bailer. Screen cleaner. Rod type and cable type sand pumps.

NEW PRODUCTS:

Cavins Cement Dump Bottom enables operator to place cement at desired point in well without change in proportions of mix. Cement emerges from the full-size opening in the bottom of dump body, and is deposited as a compact mass displacing the well fluid as the bailer is raised. There are no valves or small parts to become clogged. The bottom opening is closed by a thin, drillable disc positively released when bailer is raised, causing cement to flow straight out through the unrestricted opening. Spudding is not required, and there is no danger of delayed dumping or cement being strung out up the hole as bailer is withdrawn. Tripping mechanism is controlled by operator and accidental dumping avoided. Successive loads of cement are placed on top of the other without cement dump entering the green cement.

Cavins Tubing Swab — Maximum fluid by-pass through the mandrel permits maximum number of trips per hour and prevents swab being blown up or out of the tubing. Cavins swab rubbers are made for long service. The swab has only one moving part, and no close-fitting movable members.

Cavins Perforation Swab is designed for low pressure washing, it hydraulics a series of fluid jets directly into the perforations, thoroughly flushing them and the formation behind the pipe. Connected either to a bailer or to tools on a sand line, it operates automatically when pulled through the perforated



Cavins Perforation Swab, Tubing Swab, and Cement Dump Bottom

section. It may be used for moving sand or mud, or for agitating chemicals.

Cavins Automatic Hydraulic Suction Bailer designed to be run inside of oil well tubing on piano wire outfits, such as those used for checking well depths and doing bottom well pressure and temperature work. This is a brand new Cavins product just recently developed for the purpose of removing sand bridges in tubing, and removing sand from the top of the bottom hole flow beans where it is not practicable, or possible, to rig up with regulation sized hoists and sand lines for cleaning out with standard length bailers.

The total overall length of this bailer is 10 feet and the outside diameter is one and one-half inches. The complete tool weighs thirty-one pounds. It has a total fluid capacity of one-half gallon and a net sand capacity of one-fourth gallon. It is made of heat treated SAE-4140 steel and equipped with a Cavins Candee type bottom and two flat spring type safety pressure relief valves. The valve mechanism is a newly developed Cavins telescopic type valve section.

REPRESENTATIVES: Paul Cavins; G. W. Moore, and Len Moon.

D. W. Haering & Company, Inc.

CHICAGO, ILLINOIS
Booth 26 Scientific & Technical Bldg.

EXHIBIT: Various organic chemicals developed for scale, algae, sour gas, and corrosion control. Corrosion specimens and tests. Corrosion control chemical feeder and proportioner.

NEW PRODUCTS:

Quachrom Glucosate—It is claimed that this chemical has reduced the cost of corrosion control a decimal point.

Tetro Phospho Glucosate—This chemical is an efficient colloidal scale control medium, with many properties desirable in flooding operations and control of drilling mud.

REPRESENTATIVES: D. W. Haering, E. H. Snyder, C. E. Erb, H. B. Graves, H. C. Daggett, A. R. Dooley and H. B. Carlson.

Armstrong Machine Works

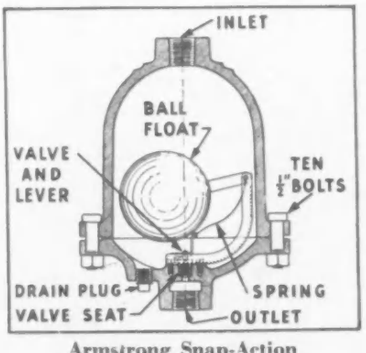
THREE RIVERS, MICHIGAN
Booths 94-95 Texas Bldg.

EXHIBITS: Armstrong steam traps. Armstrong gas traps. Compound traps. Air traps. Automatic purgers for refrigeration systems.

NEW PRODUCTS:

Snap-Action Ball-Float Air or Gas Trap—The ball float operating principle gives a trap that does not require priming, and through which no compressed air or gas is lost. At the same time the unique snap action connection link between the float and the valve lever insures positive opening and closing of the discharge valve. This prevents wire drawing, and makes it impossible for ordinary dirt or scale to lodge between the valve and seat—thereby preventing tight closing. The Armstrong snap-action ball float air or gas trap can be furnished in cast semi steel for pressures up to 250 pounds, and in forged steel, for pressures up to 1000 pounds.

REPRESENTATIVES: O. E. Ulrich, Three Rivers, Michigan. Geo. B. Allan, Dallas, Texas.



Armstrong Snap-Action Ball Float Trap

EDITION
What's New in OILDOM
SHRINK THREAD DRILL PIPE AND TOOL JOINTS
NOW REPLACEABLE AT THE WELL
Of special interest to users of Shrink Thread Drill Pipe and Tool Joints in every field is the development of replacement equipment for field processing at the rig. Tool Joints for Shrink Thread Drill Pipe can be quickly and easily replaced at the well through the use of a new "Spang" portable furnace, equipment, tools and accessories readily available from strategic locations throughout the oil fields.
The fundamental simplicity of the Shrink Thread Design permits repeated tool joint replacements over the entire service life of the drill pipe.
A special booklet describing Shrink Thread Drill Pipe and Tool Joints, and this new replacement field service is available through any of the offices listed below.
SPANG CHALFANT, INC.
GENERAL OFFICES: Grant Building, Pittsburgh, Pa.
SALES OFFICES:
Boston
New York
Philadelphia
Pittsburgh
Atlanta
Chicago
St. Louis
Tulsa
Houston
Denver
San Francisco
Los Angeles
An Exclusive Field Service for Users of
STANDARD SEAMLESS SHRINK THREAD DRILL PIPE

HUNDREDS OF LE

U. S. ROTARY HOSE WITH LEAKPROOF COUPLING

- Revolutionary coupling principle.
- Streamlined and permanently sealed against leakage.
- Hose and coupling perfectly balanced under full pressure.
- Increased fluid area assures full flow.
- New method of anchoring coupling minimizes stress on hose.
- Built-in as integral part of hose.
- No flanges, clamps, nozzles, bolts, nuts, hydraulic nipples, or other fittings.
- Easy to connect and maintain.
- Eliminates losses and shut-downs caused by leaks.
- Coupling made of toughest alloy steel. Complete fittings weigh less.
- Performance proven in advance in laboratory, and tested at factory, at pressures in excess of those encountered in actual service.

Available in both famous brands:

U. S. MATCHLESS, U. S. PEERLESS Rotary Hose

FLENGTHS IN THE FIELD

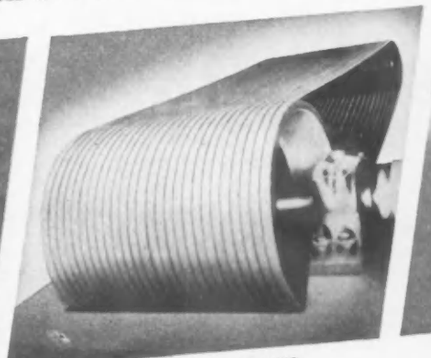
...and every one a success

In the oil country, where rugged toughness is a "must" in both men and equipment, High Pressure U. S. Rotary Hose is doing a real he-man job. Super flexible under today's drilling pressures...reinforced to give extra burst resistance...equipped with a new leakproof coupling that tightens the seal as the pressure increases . . . U. S. hose is giving long, hard, uninterrupted service in hundreds of tough drilling operations. Don't risk costly delays and shut-downs. Equip with the surety of U. S. Matchless or Peerless Rotary Hose—built to give you "Service Beyond Price and Specifications."

Be sure to use U. S. Rotary Packings—labelled. All you need to know is pump name, number and service to secure correct packing.

Some More Reasons Why Oil Men Are Getting "SERVICE BEYOND PRICE AND SPECIFICATIONS"

U. S. PERFECTED STUFFING BOX RINGS
With molded grooves—provide unique hydraulic seal, regulated lubrication, greater flexibility, longer life, lower maintenance costs.



U. S. RAINBOW V-BELTS
Furnished in specifically matched sets for heavy shock load oil field service.

U. S. MUD SUCTION HOSE
Extra heavy and extra strong to dampen vibration and to resist the cutting action of mud fluid.

UNITED STATES RUBBER COMPANY
US
TRADE MARK

UNITED STATES RUBBER COMPANY

Rockefeller Center, New York

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

A. O. Smith Corporation

MILWAUKEE, WISCONSIN
Booths 177-180 Oklahoma Bldg.

EXHIBIT: Casing. Smithlined pressure vessels. Smithsteel automotive units. Glass-lined tanks.

REPRESENTATIVES: R. Furrer, T. M. Jasper and J. Dilot, of Milwaukee; B. F. Bart, R. W. Lade and C. O. Relephord, of Dallas; A. E. Butts, C. B. Truitt and T. W. Pitzer, of Tulsa; H. A. Bourne, S. A. Carpe and K. L. Camp, of Houston; B. C. Heald, Shreveport; G. F. Henson, Great Bend, Kansas, and T. H. Creden, Corpus Christi, Texas.

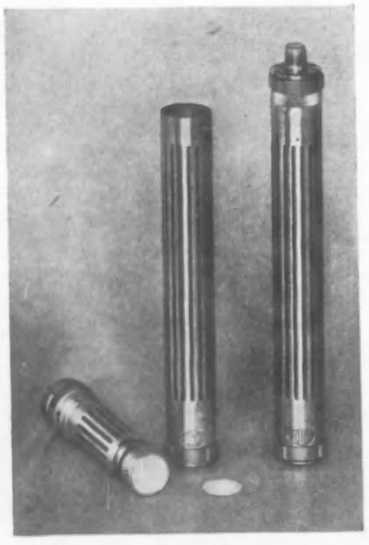
Technical Oil Tool Corporation

LOS ANGELES, CALIFORNIA
Booths 192-193 Oklahoma Bldg.

EXHIBIT: Vertical drilling tools. Totco recording instrument. Motion picture describing vertical drilling and action of drilling tools underground.

NEW PRODUCTS:

Totco Recording Instrument for controlled vertical drilling is designed to record to ⅛-degree or less with stop on bottom not more than 45 seconds. Records are read by the driller as soon as the instrument is brought to the surface. The instrument may be run into and pulled out of drill pipe on light measuring line; may be dropped into the drill pipe freely and retrieved with a core barrel overshot assembly attached to an ordinary sand line or measuring line; may be dropped into the drill pipe and recovered when the string is removed from the hole; may be run into the drill pipe connected to a core barrel overshot assembly coincident with recovering a retractable core barrel; may be run into the drill pipe and pulled out with an ordinary sand line; or, in a cable-tool operation, may be run inside the bailer or below sinker bars after cuttings have been removed.



Totco Recording Instrument

REPRESENTATIVES: J. B. Wood, president; J. V. Robinson, general sales manager; E. G. McConnell, Mid-Continent manager; R. L. Crook, South Texas district representative; R. A. Feemster, Oklahoma district manager, and J. W. Culbertson, chief engineer.

Koppers Company

PITTSBURGH, PENNSYLVANIA

American Hammered Piston Ring Division

BALTIMORE, MARYLAND

Bartlett Hayward Division

BALTIMORE, MARYLAND

Engineering and Construction Division

PITTSBURGH, PENNSYLVANIA
Booths 73-74-75 Texas Bldg.

EXHIBIT: American hammered oil field piston rings. Fast's self-aligning couplings. Large illuminated flow diagrams of Koppers Seaboard purification system for liquid hydrocarbons; modified Thylox purification process for low sulphur gas; phenolate process for removal and recovery of hydrogen sulphide, and gas dehydration process using solid absorbent.

REPRESENTATIVES: John A. Worthington, Bart Aldridge and J. M. Fuller from American Hammered Piston Ring Division. J. M. Fuller from Bartlett Hayward Division. W. A. Leech, Jr., from Engineering and Construction Division.

Ahlberg Bearing Company

CHICAGO, ILLINOIS
Booth 79 Oklahoma Bldg.

EXHIBIT: CJB ball bearings. Bower micro-honed tapered roller bearings. Straight roller bearings. Thrust bearings. Pillow blocks. Mounted bearings.

NEW PRODUCTS:

CJB Simplex Machine Units are designed to provide machine manufacturers with a means of incorporating ball bearings in their equipment where the housings are integral parts of the machine. They are made in three capacities, for light, medium and heavy-duty service. The light series are mounted directly on the shaft, while others mount through a split adapter sleeve in a tapered bore bearing. Retaining caps are optional. Seals, made of Neoprene, are frictionless, labyrinth type.

REPRESENTATIVES: P. H. Staerk, O. K. Wright, H. J. Wright, W. L. Hill, C. G. Stone and P. G. Hull.

Lane-Wells Company

LOS ANGELES, CALIFORNIA
Lane-Wells Bldg.

EXHIBIT: Gun perforator. Packers. Electrolog. Liner hangers. Oil well surveys. Bridging plugs. Survey instruments.

NEW PRODUCTS:

Lane-Wells Drillable Bridging Plug

Drillable Bridging Plug designed for fast operation, accurate depth placement and absolute pack-off. Run in place and set by a Lane-Wells gun perforator service unit, the plug is lowered into the hole faster than plugs of earlier design because of greater clearance between the plug and the casing. The plug is designed to stay where it is set, the slips being actuated by the setting tool and excessive pressures from above or below tending to set them tighter. A synthetic rubber sleeve, automatically expanded, is provided with lips on both ends. Increased fluid or gas pressure tightens the pack-off. Cast iron construction of the plug makes it drillable. The plug is available in sizes from 5- to 9⅝-inch O.D.

Lane-Wells Quinta-Seal Packer

Quinta-Seal Circulation Type B Packer has five flat side-wall rings of rubber or Neoprene to provide ample bearing surface for a positive seal and resistance to gas pressures. Heat-treated alloy steel slips give a positive grip without cutting. A body of strong seamless steel casing or tubing has the same internal diameter as the string on which the packer is run. A large circulation area between the packing assembly and the tube is provided to permit it to be set and reset as often as required, without swabbing action, even in heavy rotary mud, and to be run in and out at normal speeds. The packer is available in sizes 4¾ to 11¾ inches O.D.

REPRESENTATIVES: Rodney S. Durkee, president; Norman L. Dorn, vice president and chief engineer; M. E. Montrose, general sales manager; Morton T. Higgs, Gulf Coast division manager; John E. Huff, assistant sales manager, Gulf Coast division; R. B. McCullar, Mid-Continent division manager, and Charles T. Casebeer, sales manager, Mid-Continent division.

STANCLIFF SCREEN
Patented

The use of STANCLIFF Screen

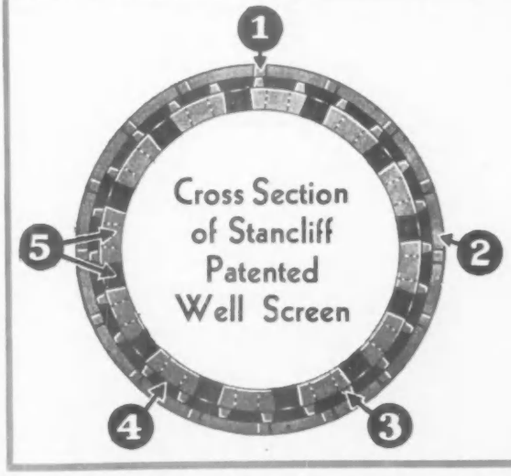
WILL RESULT IN

★Production free from sand.

★A continuous saving in valves, chokes and pumping equipment.

★Reduction in loss of time due to shut-downs.

★Elimination of cavities in producing sand.



ADVANTAGES IN DESIGN AND CONSTRUCTION . . .

1. Full depth, full width spacing lugs rolled into the square wrapping wire make the gauge and maintain it.

The lugs space the wire at the top and at the bottom of the wire. The square wire helps to resist a change in gauge from abrasion and corrosion.

2. Wire wrapping. Galvanized Steel, Brass, Bronze, Admiralty, and Stainless Steel Wire, can be furnished.

3. Ribs are laid on the outside of the pipe, and are of the same metal as the wrapping wire.

4. Flow channels are formed by the ribs to increase screening efficiency and reduce fluid velocity with the consequent minimizing of sand cutting. This construction makes the STANCLIFF SCREEN easy to clean.

5. Perforations in the pipe are staggered with one row of holes under each flow channel.

HOWARD SMITH COMPANY

Phone: F-6363 | 1201 Sawyer Street, HOUSTON, TEXAS | P. O. Box 688

EXPORT REPRESENTATIVE: ACME WELL SUPPLY CO., 19 RECTOR ST., NEW YORK, N. Y.

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Spang & Company

BUTLER, PENNSYLVANIA
Booths 44-45-50-51
California Bldg.

EXHIBITS: Straight and twisted bits. Boxes and pins. Rope sockets. Spang weldless jars. Trip casing spears. Hollow reamers. Alligator grabs. Combination sockets. Full circle slip sockets. Eclipse wire line knife. Collar Busters. Wire line hitch. Spang safety drilling-in-head. Tool set plug packer. Three step cone anchor packer. Hook wall packer. Lead and rubber mandrel plug. Cement spray gun.

REPRESENTATIVES: O. B. Pierce, Odessa, Texas; L. F. Porter, Winfield, Kansas; E. B. Irvan, Mt. Pleasant, Michigan; F. J. Spang, Butler, Pennsylvania; C. E. Spang, Butler, Pennsylvania.

Gates Hardware Company

TULSA, OKLAHOMA
Booths 13-16 Kansas Bldg.

American Fork & Hoe Company

CLEVELAND, OHIO

Lufkin Rule Company

SAGINAW, MICHIGAN

National Carbon Company

LONG ISLAND CITY, N. Y.

National Twist Drill & Tool Company

DETROIT, MICHIGAN

Nicholson File Company

PROVIDENCE, RHODE ISLAND

Pennsylvania Lawn Mower Works

PHILADELPHIA, PENNSYLVANIA

Spartan Saw Works

SPRINGFIELD, MASSACHUSETTS

Templeton, Kenly & Company

CHICAGO, ILLINOIS

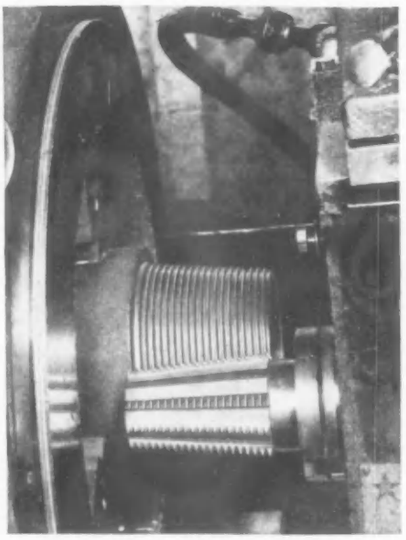
Winter Brothers Company

WRENTHAM, MASSACHUSETTS

Fayette R. Plumb, Inc.

PHILADELPHIA, PENNSYLVANIA

EXHIBIT: National drills. Spartan hack saws. Nicholson files. Fox shovels. True-Temper tools. Lufkin tapes. Eveready Prestone. Yale and Master padlocks. Plumb tools. Simplex jacks, Minnesota Mining abrasives. Toro and Pennsylvania mowers. Crescent tools.



National Twist Threading Cutter for Tool Joints

Winter Brothers taps and dies. Ecolite lanterns. Ridgid and Trimo tools. Billings and Spencer wrenches. Allen and Gott water cans.

NEW PRODUCTS:

Hardware Items, including Laughlin safety clip for wire rope designed to develop efficiency up to 95 percent the capacity of the rope without damaging by pinching or crushing; National and Winter Brothers drills, taps and dies; Lufkin chrome tape; True Temper axes, weed cutters and hammers; Fox shovels, and Spartan hack saws.

REPRESENTATIVES: F. E. Gates, W. C. Gates, G. H. Gates, A. W. Coulter, C. R. Pendleton, W. L. Hicks, C. E. De Verse, H. E. Fitzer, E J. Chamberlain, A. F. Huge, Robert Balliet, T. L. Robbins and Jack Cole.

From National Twist Drill & Tool Company: V. W. Wheeler, assistant sales manager, Detroit; Robert Balliet, southwestern representative.

Darling Valve & Manufacturing Company

WILLIAMSPORT, PA.
Booths 113-114 Oklahoma Bldg.

EXHIBIT: Cast-steel taper-seat gate valves for high-temperature and refinery service. Cast-steel, Darval semi-steel and forged-steel double-disc gate valves and check valves for cross-country pipe lines and gathering lines. Hydraulically operated and electrically operated gate valves. High-pressure fire hydrants for industrial and refinery service. Darcova, Darval and Darflex valve cups. Darling balls and seats.

REPRESENTATIVES: M. L. Hough, president; S. C. May, general sales manager; J. S. Kiesel, chief engineer, and Frank Cavenaugh, E. J. Connelly and H. B. Dennis, district sales managers, and T. M. Jones, sales representatives.

Kerotest Manufacturing Company

PITTSBURGH, PENNSYLVANIA
Booths 89-90 and 121-122
Oklahoma Bldg.

EXHIBIT: Complete control systems for drilling and producing wells. Late improvements in alloy cast steel valves for drilling, producing and refining. Cast and forged steel fittings and flanges.

NEW PRODUCTS:

Packed Slip Type Casing and Tubing Hangers—An entirely new development in these hangers are shown and demonstrated, in addition to newly developed improvements on all Kerotest valves.

REPRESENTATIVES: Edward G. Mueller, Walter G. Swaney, Harry C. Potts, J. D. Isaacks, Shep F. Miers, C. C. Trees, Gene Best, Jos. A. Swaton and Clyde L. Alexander.

Bunting Brass & Bronze Company

TOLEDO, OHIO
Booth 64 Oklahoma Bldg.

EXHIBITS: Cast bronze sleeve type bearings. Bronze back babbitt lined bearings. Bronze thrust washers. Graphited oil-less bearings. Bronze electric motor bearings. Tubular and solid bars. Special bronze parts for the oil industry.

REPRESENTATIVES: G. H. Adams, director of sales; J. F. Roberts, Southwestern factory representative; D. C. Spaulding, product engineer.

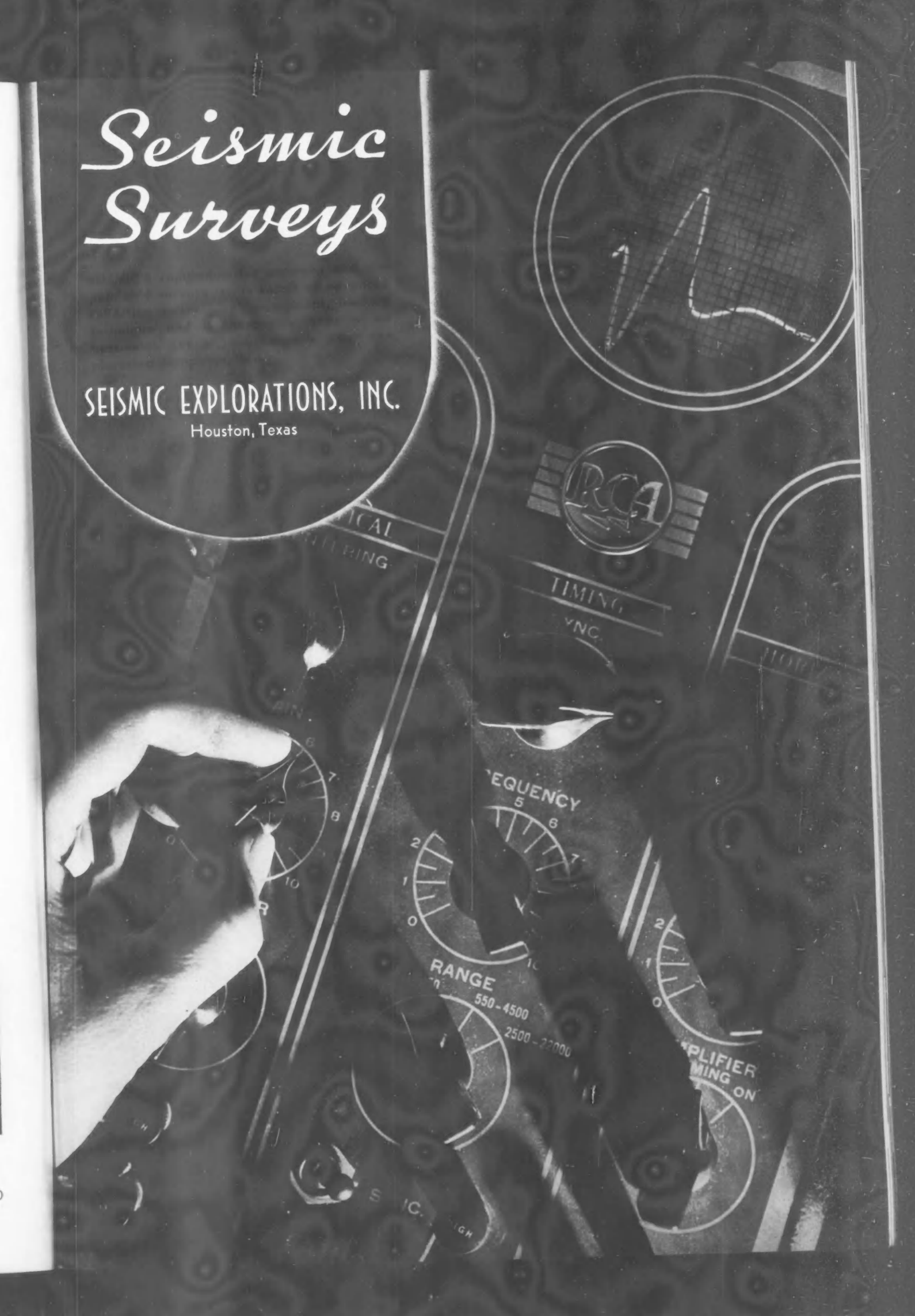
Norton Company

WORCESTER, MASSACHUSETTS
Booths 185-186 Oklahoma Bldg.

EXHIBIT: All types of grinding wheels and abrasive products. "Alundum," "38 Alundum," "Crystolon," "Norbide," and diamond abrasives. Porous tubes for filtering. "Alundum" extraction thimbles for oil testing.

REPRESENTATIVES: R. M. Johnson, western sales manager; W. E. Shumway, Chicago district manager; F. L. Anderson; I. W. Stanton.

Norton Grinding Wheels and Abrasive Products


Seismic Surveys
SEISMIC EXPLORATIONS, INC.
Houston, Texas
RCA
TIMING
RANGE
550-4500

United States Steel Corporation
CHICAGO, ILLINOIS

American Steel & Wire Company
CLEVELAND, OHIO

Carnegie-Illinois Steel Corporation
PITTSBURGH, PENNSYLVANIA

Cyclone Fence Company
WAUKEGAN, ILLINOIS

Tennessee Coal, Iron & Railroad Company
BIRMINGHAM, ALABAMA

Universal Atlas Cement Company
NEW YORK, NEW YORK

United States Steel Export Company
NEW YORK, NEW YORK

Columbia Steel Company
SAN FRANCISCO, CALIFORNIA

Scully Steel Products Company
CHICAGO, ILLINOIS
Booths 143-150 Oklahoma Bldg.

EXHIBITS: Diorama showing electric furnace used for making stainless steel. Model of a modern bubble tower which illustrates many applications of stainless steel to refining operations. Samples of stainless steel fabricated into bubble caps and trays and used as liners. Other products made from stainless sheet and strip. U. S. S. carilloy steels, showing use in oil field tools and equipment. Large panel showing how Cyclone chain link fence is used in the petroleum industry. Complete assortment of specially designed fittings. Display of cements built around a diorama showing an oil well and illustrating the use of Unaflo oil well cement. Other cements included in this section: Universal, Atlas Portland, Atlas High Early, Atlas White, Atlas Waterproofed White, Lumnite. Tiger Brand wire ropes. Electrical wires.

NEW PRODUCTS:

Atlas High-Early Cement for speeding up surface string cementing and for shallow wells. It hardens rapidly, thereby reducing rig shutdown time. Also suitable for rig foundations and cellars.

REPRESENTATIVES: From American Steel & Wire Company: R. M. Bruce, R. D. Burris, P. T. Coons, Sears Doan, E. T. Eggers, H. M. Francis, W. P. Howell, R. T. Merrell, Marshall Olds, C. L. Richardson, J. M. Welsh, C. F. Wiley.

From Carnegie-Illinois Steel Corporation: T. J. Hilliard, general manager of sales, Pittsburgh, Pennsylvania; R. Korsan, Jr., Manager of sales, Paul Vander Lippe, Walter Gross, W. P. Gulliford, St. Louis, Missouri; Karl Luger, Houston, Texas.

From Cyclone Fence Company: L. E. King, district sales manager, Fort Worth, Texas; J. Denton, Tulsa, Oklahoma; A. M. Eaton, Houston, Texas; J. D. Hill, Fort Worth, Texas.

From Tennessee Coal, Iron & Railroad Company: E. E. Aldous, manager of sales; G. J. Stewart, assistant manager of sales, Houston, Texas.

From Universal Atlas Cement Company: I. F. Bingham, R. Lee Chance, Houston, Texas; J. H. Clark, Waco, Texas; Harvey Martin, J. R. McNeill, Tulsa, Oklahoma.

From United States Steel Export Company: H. E. Julian, direct sales division.

Chiksan Tool Company
BREA, CALIFORNIA
Booths 62-63 California Bldg.

EXHIBIT: All-steel rotary hose, including first 5-inch size shown in Mid-Continent. Circulating heads. Mud guns. Ball-bearing swing joints. Working models showing application of counterbalance swing joints to modern loading racks.

NEW PRODUCTS:

High-Temperature Swing Joint is designed for operation at working pressures to 500 pounds and at temperatures up to 700° F. It is made in 6 styles for full 360-degree rotation in 1, 2 and 3 planes. Pressure or load is transmitted through double rows of hardened steel balls in flame-hardened races, and the pressure required to force the members apart would have to equal the shearing strength of the metal. A margin of safety is provided as the shearing strength of the metal is in excess of rated capacity of the joint. The joint is without packing glands or stuffing boxes, and has no nuts or bolts. The packing chamber is machined to close tolerances, and then chromium-plated and polished. The packing set is a combination of asbestos and brass rings, and is held in place by the tension of a special alloy wire spring.

Chiksan Swing Joint

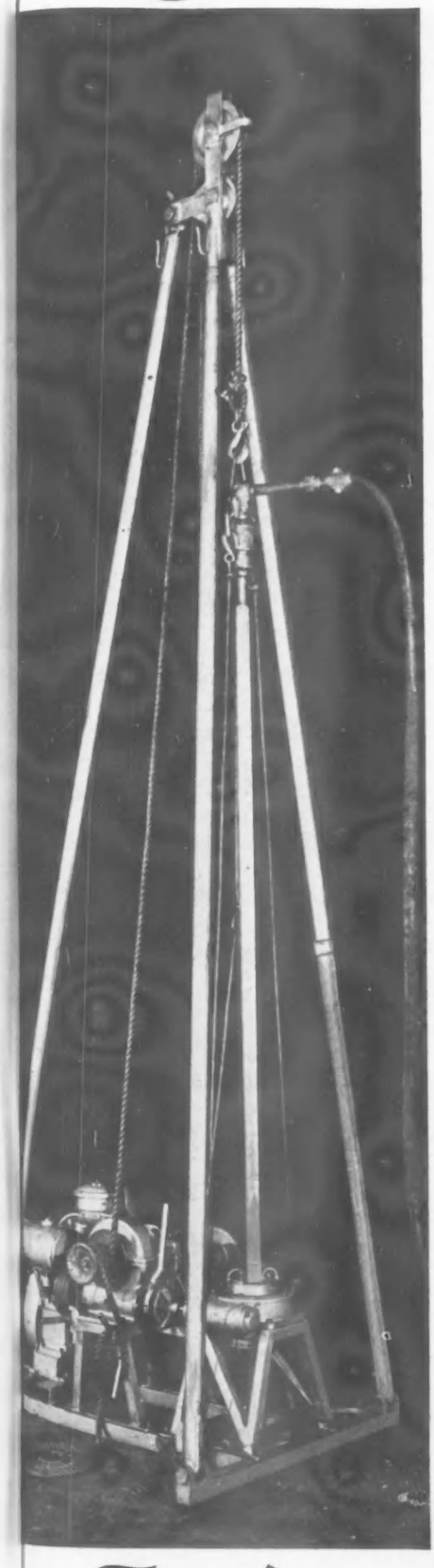
REPRESENTATIVES: Earle R. Atkins, sales manager; Lee Laird and Dick Winder.

General Electric Company
SCHENECTADY, NEW YORK
100-101 and 116-117 Kansas Bldg.

EXHIBITS: Oil-field type starters (Type CR7008-A1HP) including line switch contactors, time switch, lightning arresters, manual-automatic selector switch in weatherproof case. Type HT three-phase transformers for oil-field service. Cable samples showing types especially adapted for oil-field service. General Electric welding truck in operation showing a complete line of electrodes for welding of mild steel, high tensile steel, or cast iron. Also, a-c transformer type arc welder, d-c gas-engine-driven and motor-driven arc welding equipments. This truck will be located in the Center Block "R" facing Oklahoma Drive. Operating exhibit showing how to select the motor best suited to the job, having four General Electric splashproof induction motors for oil-well-pumping drive (Types K, KF, KG, KR) mounted underneath circles on a backdrop on which, at the top, are listed in five windows, typical operating conditions to be considered in the selection of a pump. Pumps are selected according to conditions of the job discussed, the facts appear written in the windows, and a switch is thrown which puts into operation the motor best suited to the job, while an application picture of the same type motor appears in one of the large, dark circles. There will also be demonstrations from General Electric "House of Magic" including "Visible Sound," "Audible Light," "Voice Controlled Train" and "Kidnap Detector."

REPRESENTATIVES: E. F. Patterson and R. G. Smith, Tulsa, Oklahoma; F. B. Hathaway and G. W. Curry, Houston, Texas; W. B. Clayton, H. A. White, R. W. VanKirk, W. N. Petzing, A. E. Allen, and A. H. Keen, Dallas, Texas; J. E. Ham, Chicago, Illinois; H. S. Sherman, St. Louis, Missouri; H. C. Hill, Los Angeles, California; W. G. Taylor and J. J. Huether, Schenectady, New York.

PRESENT PRODUCTION METHODS *require modern equipment*

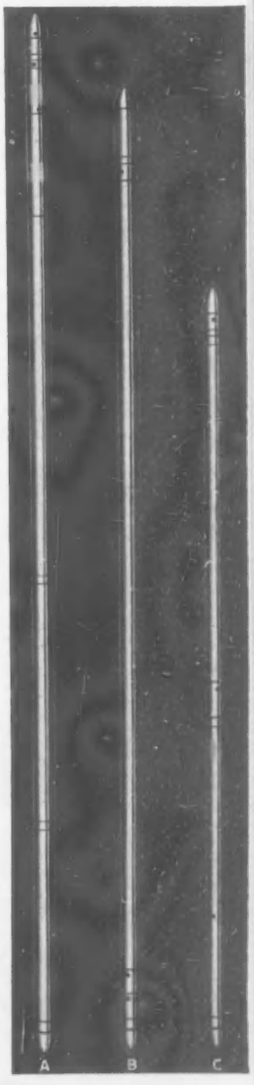


The **E.L.I. A-3 Portable Rotary Drill** is an extremely portable unit, and is well adapted to structure testing, seismic work, and water well drilling in conjunction with drilling programs. Due to extreme portability it can be set up practically anywhere men can work.

No unit weighs over 75 lbs. when the drill is disassembled, except the engine which weighs 103 lbs. The total weight with 13'8" mast is 800 lbs. The type A-3 drill with mast designed to withstand 11,000 lbs. vertical pull, including 14 joints of drill pipe, 1⅝" O.D. x 1⅛" I.D. "A"-rod in 7 ft. lengths with specially designed couplings which give 2.2 times as much water as standard "A"-rod couplings; two drill bits; one 2" fish tail; one 4", 4-way rock bit; and 5 h.p. Briggs-Stratton air cooled drilling engine, lists at $2,200.00.

Pumps available for above unit are a 2" High Pressure Homelite, price $300.00, or a 1½" specially designed Moyno with 5 h.p. Briggs-Stratton, price $575.00, including V-Belt drive, Clutch, and Mounting Frame.

This unit is also available mounted on a one-half ton truck with power take-off for drilling power.



SUBSURFACE RECORDING INSTRUMENTS

A. 1¼" O.D. SUBSURFACE PRESSURE GAUGES: instruments designed for measuring pressures within well bores, to an accuracy of 0.5%, Maximum recorder type $415.00. Clock recorder type $585.00.

B. HIGH PRESSURE SUBSURFACE SAMPLERS: designed to secure samples within well bores at predetermined depths and to retain them under pressure. High Pressure Subsurface Sampler only, $275.00.

C. SUBSURFACE RECORDING THERMOMETERS: for measuring and recording temperatures in fluid columns within well bores. Optional temperature ranges of 180° F. are available. Subsurface Recording Thermometer complete $605.00. Recording Thermometer section only, $235.00.

Auxiliary equipment consists of mercury pump, pressure volume cell, water bath assembly, and gas/oil ratio assembly. Engineering Laboratories, Inc., has obtained exclusive manufacturing rights to build, sell, and service the above subsurface measuring and recording equipment, designed by the Humble Oil & Refining Company.

ALL PRICES F.O.B. TULSA. SUBJECT TO CHANGE WITHOUT NOTICE

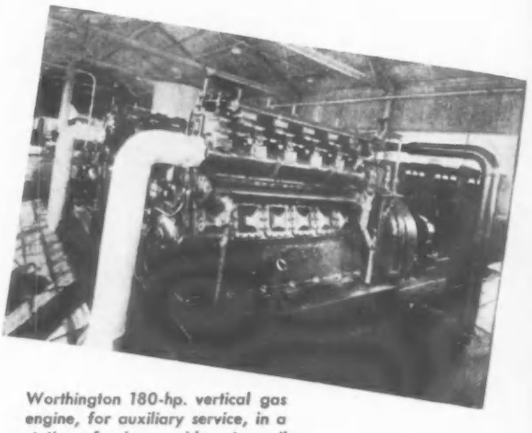
Engineering Laboratories, Inc.

CONSULTING ENGINEERS AND MANUFACTURERS

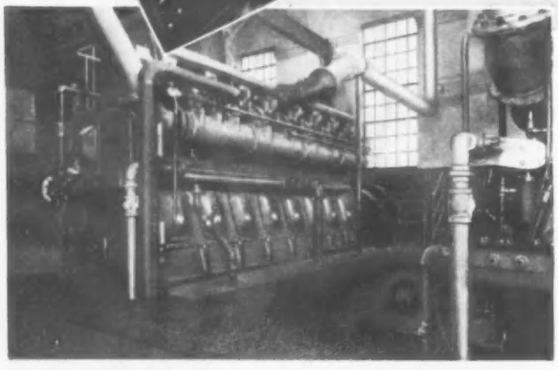
TULSA, OKLAHOMA, U.S.A.

For Field ... Pipe Line

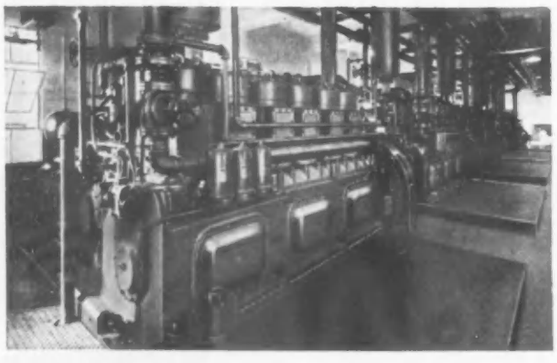
Worthington LTC angle gas engine compressor, available in six sizes, 375-hp. to 1000-hp.



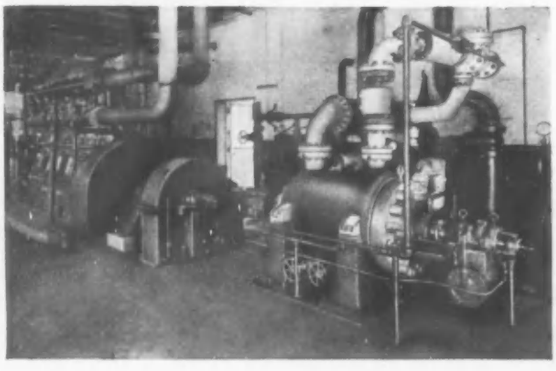
Worthington 180-hp. vertical gas engine, for auxiliary service, in a station of a large mid-western oil pipe line



One of two Worthington 8-cylinder 1000-hp. convertible gas-diesel engines, in general power service



Three 225-hp. and two 300-hp. Worthington LCE angle gas engine compressors, in a cracking plant of a mid-western oil refinery



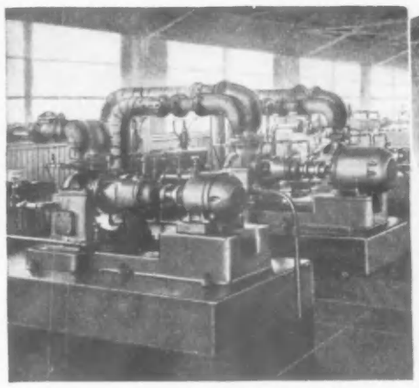
Worthington centrifugal hot charge pump, driven by Worthington vertical gas engine, in an eastern refinery

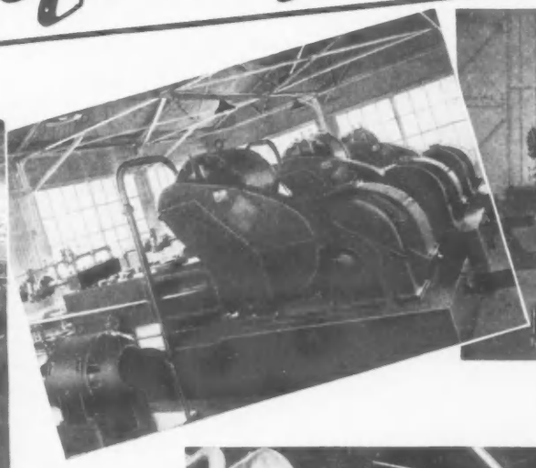
WORTHINGTON'S role in the history of the petroleum industry has been many times that of a pioneer . . . in equipment for field operations . . . for transportation . . . and for refinery processes.

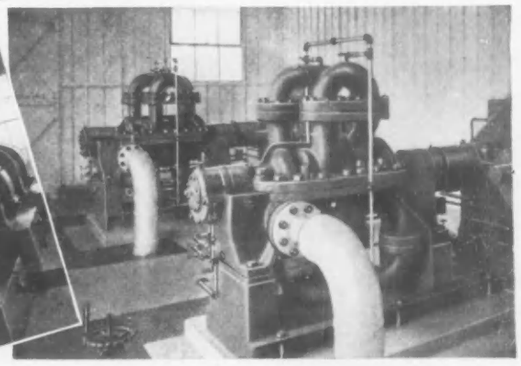
Worthington's program of thorough research into oil handling problems has been consistently maintained . . . and the corporation's success in meeting the exacting conditions of the petroleum industry is attested by the wide application of its equipment at every important step.

ICO-15

and Refinery ...

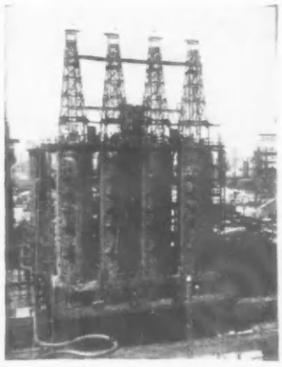






Two Worthington centrifugal pipe line pumps driven, through fire wall, by Worthington 280-hp. Diesel engines

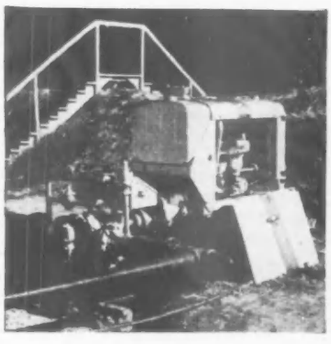
Above left—Two Worthington Type H centrifugal pumps handling hot oil

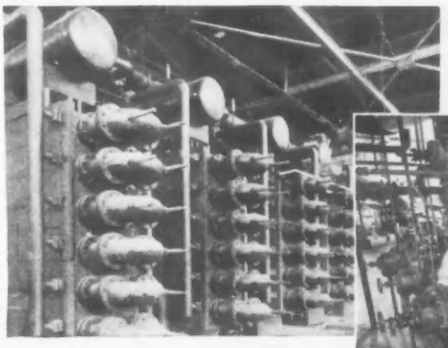


Above right—Three Worthington duplex pumps, electric motor driven, pumping cold oil at 1500 lb. per sq. in. discharge pressure

Left—Complete hydraulic decoking and coke transportation systems for economical removal and transportation of coke from coke chambers in oil refineries

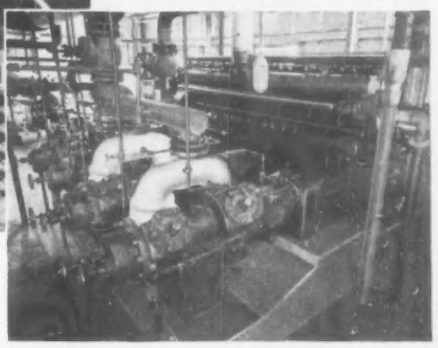
Below left—Worthington rotary pump, gas-gasoline engine driven, in gathering service in the oil fields



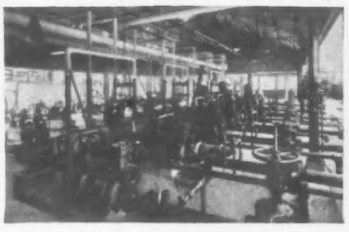


Worthington-Carbondale chilling machines, for ammonia direct-expansion operation in a solvent dewaxing plant

Below—Worthington LCE angle gas engine compressor, with ammonia compressor cylinders, on refrigeration service in a lubricating oil dewaxing plant



Worthington HiVoL direct-acting pumps handling gasoline



Worthington centrifugal pumps in line, driven by Moore steam turbines, in oil refinery service

Worthington power pump driven by gasoline engine with Worthington Multi-V-Drive... in oil gathering service

WORLD WIDE SERVICE

WORTHINGTON PUMP AND MACHINERY CORPORATION

General Offices: **HARRISON, NEW JERSEY** - *Branch Offices and Representatives in Principal Cities throughout the World*

FOREIGN ASSOCIATED COMPANIES AND WORKS:

WORTHINGTON-SIMPSON LTD., LONDON, ENGLAND; CALCUTTA, INDIA
SOC. WORTHINGTON, PARIS, FRANCE
BOMBAS Y CONSTRUCCIONES MECANICAS WORTHINGTON, S. A., MADRID, BARCELONA AND VALENCIA, SPAIN
SOCIETA ITALIANA POMPE E COMPRESSORI, MILANO, ITALY

ICO-15

WORTHINGTON

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

The Exner-Dodge Packer Company

COFFEYVILLE, KANSAS

The Brandon Company

ODESSA, TEXAS

Norris Brothers, Inc.

ROBINSON, ILLINOIS

Grip-Tite Manufacturing Company

WINTERSET, IOWA
Booth 226 Oklahoma Bldg.

EXHIBIT: Underset formation packer. Anchor formation packer. Fluid lift packer. Slide valve packer. Miscellaneous packers. Swaged nipples. Bull plugs. Casing nipples. Sub tubing nipples. Sub tubing couplings. Casing shoes. Lead plugs. Stuffing boxes. Splicing needles. Bit gauges. Crumbie tongs. Products of Norris Brothers, Inc., and Grip-Tite Manufacturing Company.

REPRESENTATIVES: Frank S. Denison, R. E. Fulkerson and Thomas E. Brandon.

The Buda Company

HARVEY, ILLINOIS
East Half Section M, Outside

EXHIBIT: Engines (gasoline) PH-1879, JL-1335, JL-877, YR-425; (Diesel) 6-DH-909, 6-DT-317 (Ford conversion automotive Diesel) K-428 powered 25 KW generator set. HP 217 powered 15KW generator set. Complete line of jacks from 1½ to 100 tons.

NEW PRODUCTS:

Engine Model PH 1879—This is a 6¾ x 8¾, 6-cylinder natural gas engine suitable for drilling and pipe line pumping service, displayed as a natural gas-butane engine. It may be converted easily to a Diesel through substitution of fuel injection equipment for the carburetor and ignition equipment. Parts necessary for conversion to Diesel will be shown on a display board. The engine develops 233 horsepower at 1000 revolutions. It is equipped with a small gasoline engine for starting.

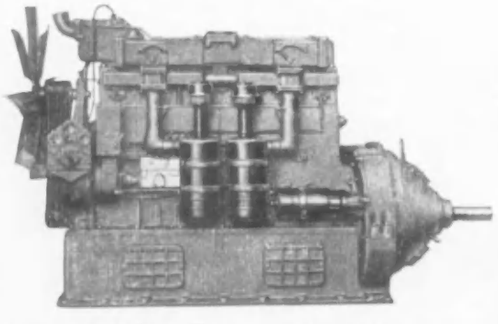
Engine Model JL-877 is a 6 1/4 x 7 1/9, 4-cylinder cast iron base power unit suitable for pipe line and production pumping. Maximum horsepower is 114 at 1100 revolutions.

Models HP-217 and K-428 Powered Generator—These generators have capacities of 15 and 25 KW, respectively, and are arranged to drive the generators at 1200 revolutions and are equipped with remote control equipment. An unusual feature is the automatic manner in which either comes on the line as soon as it comes up to speed. These generator sets will furnish all light and power for the Buda display.

Model 6 DT-317 Diesel Engine is available as a complete replacement unit to interchange with and replace the gasoline engine in late model Ford trucks. It is a 6-cylinder, 4-cycle, automotive type Diesel having a bore and stroke of 3⅝ x 5⅛ and a maximum horsepower of 90 at 2300 revolutions.

Jacks—A complete line of automatic lowering, hydraulic, ratchet, screw and journal jacks for all industrial needs. The new Buda improved automatic lowering all purpose jack, Model 2215-H, is designed particularly for the oil fields.

REPRESENTATIVES: J. S. Dempsey, president; R. K. Mangan, vice president; R. H. Heberling, sales engineer; J. C. Baseheart, sales engineer; Harold G. Smith, chief engineer; A. V. Simonson, export representative.



Buda Model PH-1879 Convertible Engine

Spencer Lens Company

BUFFALO, NEW YORK
Booths 24-25-26 Oklahoma Bldg.

EXHIBIT: New polarizing microscopes. A series of new stereoscopic microscopes.

NEW PRODUCTS:

Stereoscopic Microscopes provide exceptionally large object fields and high resolution of detail. Mechanical improvements facilitate focusing on either large or small specimens, and provide for quick changes in magnification. The objective lenses are held in a dust-proof revolving objective holder for quick change of magnification. The seven different pairs of objectives and four different pairs of eyepieces provide a total of 28 different magnifications, ranging from 6.3X to 144X. The angle between the axes of the two elements of the paired objectives is 12 degrees. In the prism boxes, each line of light is bent two degrees toward the center so that the convergence at the eyepiece is but eight degrees. The dual convergence maintains the stereoscopic effect, yet makes it possible to work comfortably for long periods without eyestrain.

Spencer Polarizing Microscope

Spencer Stereoscopic Microscope

REPRESENTATIVE: W. L. Reynolds.

Wall-Colmonoy Corporation

DETROIT, MICH.
Booth 59 California Bldg.

EXHIBIT: Colmonoy hard surfacing materials and overlay metals. Demonstrations showing application of these alloys by gas and electric methods. Colmonoy treated parts for pump rods, plungers, pump sleeves, wash pipes, sucker rod bushings and tubing collars.

REPRESENTATIVES: A. B. Kern, Tulsa branch manager; L. V. LaRou, Detroit factory manager; and F. G. Jones, Chicago branch manager.

Mallinckrodt Chemical Works

NEW YORK, NEW YORK
Booth 10 Scientific and Technical Bldg.

EXHIBITS: Chemicals for the petroleum industry, classified as follows: analytical reagents, photographic chemicals, stearates, mercury and mercaptans. Stearates used in grease manufacture and mercaptan used as an odorant and reagent will be featured.

REPRESENTATIVES: C. E. Cosby, O. L. Dallas, L. Y. Horton, J. A. Singmaster, Jr., H. E. Thayer.

OIL WELL COSTS REDUCED WITH FOUR AND SIX-WHEEL DRIVE TRUCKS—FWD's

FWD six-wheel-drive truck with telescopic derrick servicing unit in over-the-road position. When in transit, the complete unit meets the legal requirements of most states.

J. J. Hailey, Corpus Christi, Texas, hauls heavy equipment to the oil fields safely with their FWD six-wheel-drive truck.

The world's largest fleet of oil-well cementing and acidizing trucks — FWD's. Halliburton owns more than 300.

Portable Drilling and Servicing Rigs Are Most Economically Transported

Oil field operators of four or six-wheel drive trucks universally testify to their unfailing dependability to "get there" under all conditions. With four or six-wheel drive every ounce of the truck and its load is converted into powered traction. Power on all wheels results in unbelievable performance. On the road or off the road FWD's are twice as sure of themselves —they are more dependable. Every wheel is a live puller, not an idle roller! When one axle fails to find traction, other axles will—you will get to location with the heaviest equipment regardless of road conditions.

In the FWD six-wheel drive truck the engine's power is distributed to each axle in direct proportion to its loaded weight —1/5 of the power to the front axle and 4/5 of the power to the rear bogie. This is accomplished by a free running torque proportioning center differential, an exclusive FWD feature assuring full powered traction on all six wheels for the maximum in performance . . . FWD has a complete line of four and six-wheel drive trucks for every hauling requirement, gasoline or diesel powered. Write for descriptive literature.

THE FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis.
Canadian Factory: **Kitchener, Ontario, Canada**

VISIT THE FWD EXHIBIT—BLOCK "N"
International Petroleum Exposition
TULSA, OKLAHOMA
May 18-25, 1940
SEE THE FWD PORTABLE TELESCOPIC DERRICK UNIT ON DISPLAY

FWD six-wheel-drive truck with oil well telescopic derrick ready to pull a mile of tubing from an oil well taking a string of two sections at a time.

FWD TRUCKS

Plenty of Reasons

To Pump

SOME of them, of course, will appeal to you more than others. But we think you'll agree that all these points are good reasons for pumping your wells electrically.

1. Low First Cost—The induction motor—the ideal drive for well-pumping rigs—is a simple machine manufactured in large quantities and, therefore, relatively inexpensive.

2. Small Maintenance Expense — Well-pumping motors require only occasional inspection and lubrication. The *absence* of parts that wear, get out of kilter, and have to be adjusted or replaced is noteworthy.

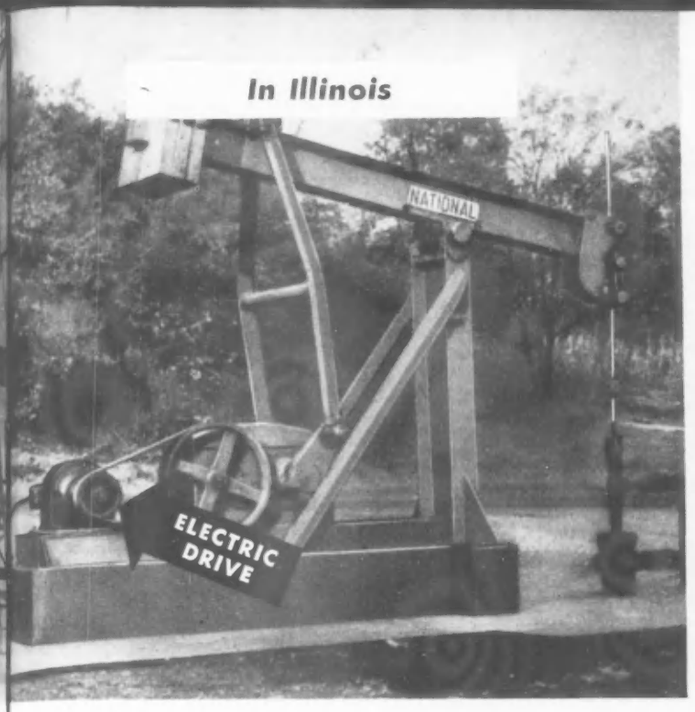
3. Simple and Economical Installation—Most pumping rigs today have skids or supports extended for mounting a motor directly. Totally enclosed, fan-cooled or splash-proof motor construction eliminates the need for a house. Control equipment comes as a weatherproof unit, completely wired and ready for operation.

4. Operating Characteristics for Any Kind of Pumping Load—As you know, no two wells are just alike. Electric motors are obtainable with electrical and mechanical modifications to meet *any* set of conditions and thereby enable you to pump with the utmost economy. Helping you select the right motor, incidentally, is a service that G-E oil-field specialists and engineers are ready to give you at all times.

5. Automatic Starting and Stopping According to Schedule—With electric drive you can use time switches to start and stop your motors automatically according to any schedule you lay out and then maintain that schedule day after day. Time switches save the pumper's time and provide more accurate timing than is otherwise practicable.

6. Long Life and High Salvage Value—There's practically nothing to wear out in an electric well-pumping motor. The rotor is the only moving part. The bearings are the only wearing parts. G-E motors have insulation that is highly resistant to moisture, oil, and abrasion.

7. Economical Consumption of Power — Not only are electric motors highly efficient in their use of power, but they use it in proportion to the pumping load. When the load goes down, power consumption goes down likewise.



Why It Pays

Your Wells Electrically

8. Portability—You need only look at an electric motor to realize how compact it is and how easily you could move it from well to well—or lease to lease.

9. Easy on the Mechanical Equipment—Electric drive gives you smoothness of operation. It provides uniform, steady power, reducing stresses on the sucker rods and lessening wear and tear on various parts of the surface equipment. It thus helps to cut repairs and replacements and to keep the rigs in shape for more years of dependable service.

HAVE you considered how some or all of these advantages add up to improved operation and lower pumping costs on *your* lease? If not, get in touch with the nearest G-E representative and have him go over your requirements with you. He's ready to do it at your convenience. General Electric, Schenectady, N. Y.

LET G-E OIL-FIELD SPECIALISTS HELP YOU in the selection and application of electric equipment for oil-field service. You can reach them in the following cities:

Bakersfield
Beaumont
Buffalo
Dallas
Denver
El Paso
Fort Worth
Houston
Kansas City
Los Angeles
Oklahoma City
St. Louis
San Francisco
Shreveport
Springfield, Ill.
Tulsa
Wichita

WHEN IN TULSA FOR THE EXPOSITION visit the General Electric exhibit. See the G-E motor selector, an instructive operating display designed for this show to emphasize the importance of carefully analyzing the operating conditions in order to select the right motors. And don't miss the HOUSE OF MAGIC demonstrations! You'll be intrigued and mystified!

GENERAL ELECTRIC

654-3

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Westinghouse Air Brake Company

PITTSBURGH, PENNSYLVANIA
Booths 79-80 Kansas Bldg.

EXHIBIT: Westinghouse air control for oil field equipment. Bendix-Westinghouse air brakes for trucks, tractors, and trailers. Westinghouse air compressors.

NEW PRODUCTS:

Westinghouse Air Control consists chiefly of standard valves for remotely controlling air actuated devices such as clutches on oil field equipment, including the new graduated Westinghouse Valves which provide an exact feel of the power being applied. In addition, various cylinders and the non-leaking power chamber of the diaphragm type.

Bendix-Westinghouse Air Brakes for trucks, tractors and trailers are, in many instances factory equipped, but in addition are also available for installation on vehicles already in service, thereby enabling the operator to provide himself with the last word in flexible, efficent and dependable power braking.

Westinghouse Air Compressors of the motor driven type ranging in displacement from 2½ to 200 cubic feet free air per minute and suitable for pressures from 0-250 pounds. Also a serviceable automotive type compressor suitable for gas engine or diesel engine drive and capable of operating at speeds ranging from 200 to 2000 r.p.m. These compressors are particularly desirable for a source of air supply for air actuated devices on oil field equipment.

REPRESENTATIVES: E. W. Davis, C. H. Beck, F. D. Smith, O. W. Schwartz, E. E. Von Behren, R. G. Justus.

Bucyrus-Erie Company

SOUTH MILWAUKEE, WISCONSIN
Block 4, Outside

EXHIBITS: Two full size drills, the new 36-L spudder and its small companion the 24-L spudder erected outdoors. A ¼ scale working model drill in the Hall of Science.

NEW PRODUCTS:

36-L Spudder has the ability to handle drilling tools equal to 1/5 the total weight of the complete machine; over 4500 pounds of tools in shallow holes or combined weight of 6000 pounds to 7000 pounds of tools and cable in deeper holes. Powered with a gasoline engine developing 86 horsepower at 1400 revolutions or 112 horsepower at 2200 revolutions, and can be equipped with water cooled manifold. A natural gas engine using gas or gasoline, as well as a Diesel, is also available. Three types of mounting are offered: skids, rubber-tired trailer, and steel wheels. On rubber the rig weighs about 23,000 pounds without tools or lines and can be hauled at speeds up to 30 miles per hour on paved highways. Maximum width of 8 feet permits moving over any highway.

Bucyrus-Erie 36-L Spudder

REPRESENTATIVES: P. H. Birckhead, sales manager; L. B. Birckhead, drill sales manager; G. R. Watson, H. W. Thornburg, F. O. Wyse, publicity director; H. C. Neely, R. C. Riggs, I. B. Ballard, H. A. Welch, H. C. Kaufman of the Kaufman Company of Los Angeles, California.

Oklahoma Steel Castings Company

TULSA, OKLAHOMA
Booths 47-48 Texas Bldg.

EXHIBIT: Steel castings.

REPRESENTATIVES: B. Fleeger, E. M. Newland, Clyde Wyman, W. C. Hackbarth, L. S. Baston, Anton Johnson, S. J. Moore.

The Tokheim Company

CEDAR RAPIDS, IOWA
Booths 31-32 Kansas Bldg.

EXHIBITS: Unique fire prevention and vapor control system for bulk, terminal and refinery gasoline storage. Mercury breather valves. Testing units. Tank gauges. Oil tank accessories.

REPRESENTATIVE: J. J. Tokheim.

Synthane Corporation

OAKS, PENNSYLVANIA
Booths 56-57 Oklahoma Bldg.

EXHIBITS: Risonite explosives containers. Synthane bakelite-laminated sheets, rods and tubes. Synthane bakelite laminated parts fabricated for pipe lines, refineries, booster stations, geophysical services and research departments.

REPRESENTATIVES: F. C. McCamly, Ernest Bernard.

Happy Belting Company

TULSA, OKLAHOMA
Block 8 Outside

EXHIBIT: Chain reduction pumping units. Young-Happy full-flow engine jacket water coolers. Belting. Cups. Idlers. Transmission Equipment.

NEW PRODUCTS:

Happy Pumping Unit TD-117 has a torque rating of 117,725-inch-pounds, horsepower rating of 23.21, and polish rod load rating of 14,000 pounds. The walking beam has 11-foot working centers, is 16 x 8½ feet at 71 pounds and has an API capacity rating of 17,400 pounds. Height of Samson post is 8 feet, with 4-foot leg, length of base members is 13½ feet. Center and equalizer bearings are bronze bushed and in a semi-steel housing. Transmission has a Diamond extra-heavy 1½-inch triple slow-speed chain; Diamond extra-heavy 1-inch triple high-speed chain; Timken bearings; sprocket material is alloy CI, 225-250 Brinnell test; pinion and shaft material is SAE-3140 heat-treated steel; crankshaft diameter at crank is 4¼ inches; length of stroke is 24, 34 and 44 inches, rotary-beam counterbalance; extra weights are 105-pound leaves in rotary counterbalance and 200- and 400-pound in beam counterbalance; standard sheave is 24-inch 3-C groove; maximum sheave is 30-inch 3-C groove, and overall reduction is 26 to 1.

REPRESENTATIVES: Paul E. Mahaffey, A. M. Butcher, C. A. Childers, Jr., R. W. Holder, Leo C. King, Roy C. Lindley, C. S. Kitch, J. R. Meek, Ben E. Shelton and L. E. Ferguson.

Happy Pumping Unit TD-117

Up-to-Date PROTECTION

Against the Dangers of SOUR CRUDE

THE OLD-STYLE, horse drawn fire wagon might have been all right in its time, but today we have more modern fire protection equipment.

Today, you have the most *modern-to-the-minute protection* against the costly dangers of sour crude when you have COLUMBIAN COP-NIC Bolted Steel Tanks . . . protection that is on the job day and night to keep your tank investment SAFE.

COP-NIC steel, with a special galvanized coating, makes Columbian Bolted Tanks highly resistant to corrosive action and perfect for use in sour crude districts. The sheets from which these tanks are made are of selected base material. An exclusive galvanizing process is used to put on a heavy coating of zinc spelter which is applied in such a manner as to become virtually a part of the steel itself, minimizing the possibility of any pitting or loosening of the coating.

The exceptional results which more and more Oil Companies are obtaining with Columbian COP-NIC Galvanized Tanks are attributed to the process used in the preparation of the sheets, of the coating and the manner of fabrication which does not destroy or render ineffective the galvanized coating.

It will pay you to take advantage of this modernized protection against sour crude. Write now for free Columbian Tank Catalog giving complete facts.

COLUMBIAN STEEL TANK CO.

P. O. Box F-4226 Kansas City, Mo.

(Below) A battery of Columbian COP-NIC Tanks in use in a sour crude district

COLUMBIAN COP-NIC GALVANIZED BOLTED STEEL TANKS

● *BUILT ESPECIALLY FOR STORING SOUR CRUDE . . . LAST LONGER IN ORDINARY SERVICE!*

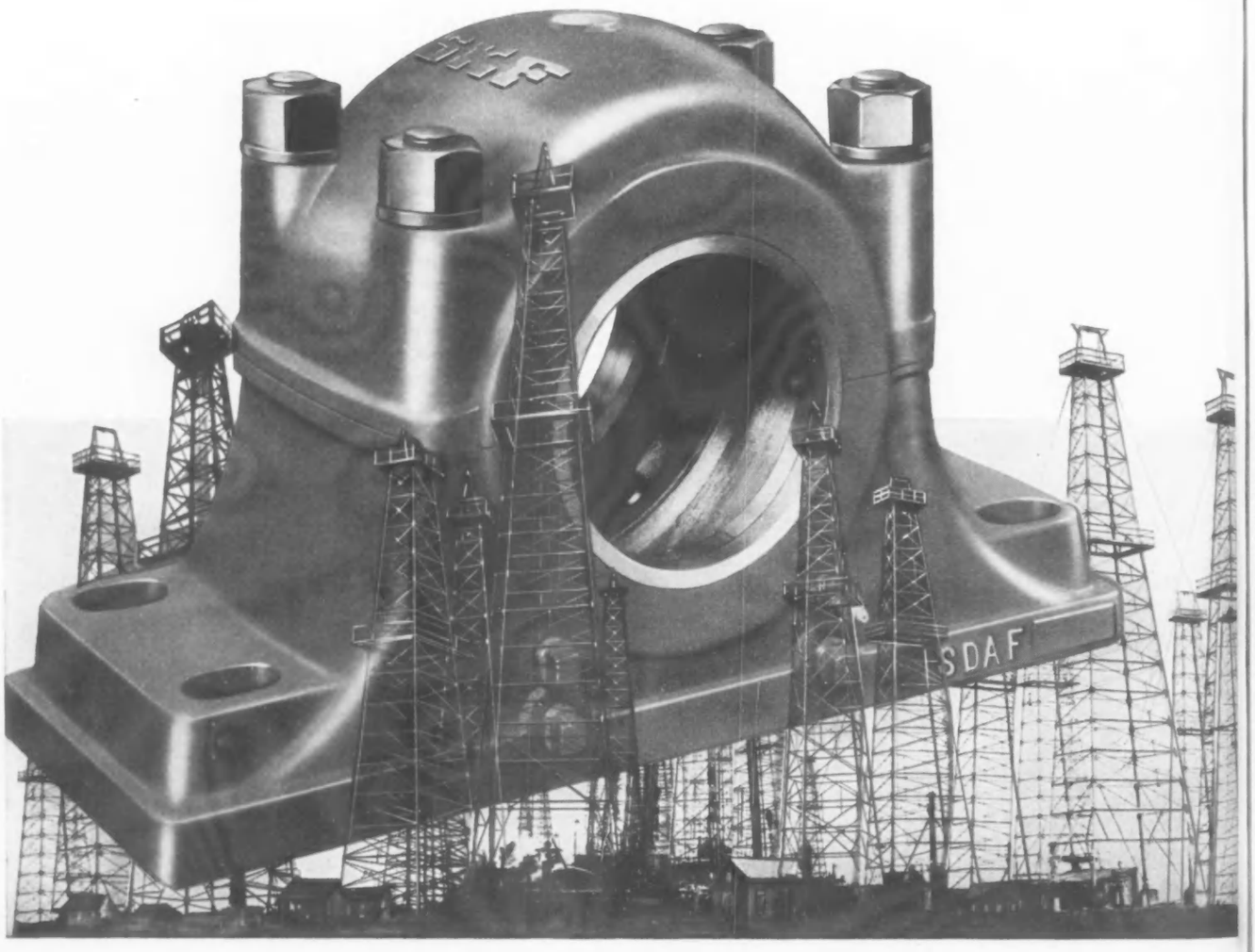
OIL EQUIPMENT GOES T

It wasn't so long ago that oil men were looking for HUSKY bearings... bearings that could stand up under the punishing loads imposed day after day on compressors, countershafts, crown blocks, drawworks, drilling rigs, drives, engines, hoisting drums, pitmans, pumps, rotary tables, screens, sheaves, spudders, swivels, travelling blocks and winches.

But when they put oil equipment to work on SKF Bearings and Pillow Blocks, they found bearings that could take it—not for a day or two but for *years.* They found SKF Spherical Roller Bearings align themselves without binding or losing their high capacity while compensating for shaft deflections, distortions or weave. They found SKF Pillow Blocks are easy to assemble, inspect and lubricate ... pay for themselves within a short time through amazing maintenance and lubrication economies. That's why so much oil equipment does its work on SKF's *today.*

4573

SKF INDUSTRIES, INC., Phila., Pa.



TO WORK ON

SKF

BEARINGS

Stop at the SKF Exhibit in Spaces 67-68 at the Tulsa Oil Show.

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

The Charles N. Hough Manufacturing Company

FRANKLIN, PENNSYLVANIA
Booths 123-24 Texas Bldg.

EXHIBIT: Specialized balls and seats, including Steelex, Bronzex, Repelex, Combinex, Resistex, Utilex and Kamonex. Seamless steel, bronze, cast iron and chrome-plated working barrels. K-W plunger pump. Working barrel valves. Oversize lower valve. Sealex plunger valves. Sealex packing rings and Flex-seal packing rings. Huf M-T-L insert pump. Huf-Duo insert pump. Huf-Supersize insert pump. Huf-stripper insert pump. Huf-Lewis insert plunger pump. Polished rods. Rod couplings and substitutes. Polished rod liners.

NEW PRODUCTS:

M-T-L Insert Pump is a metal-to-metal 2 x 1-1/16-inch insert pump.

Huf-Nu-Lewis Insert Plunger Pump is available in sizes 2 x 13/16-inch and 2 x 1-inch.

REPRESENTATIVES: Charles O. Shumaker, Wichita; Harry A. Adams, Shreveport; Harry P. Wirth, Houston; Neale Donovan, Big Spring, Texas; Frank L. Scott and L. L. Reib, Tulsa, and Charles N. Hough and O. J. Thompson, Franklin, Pennsylvania.

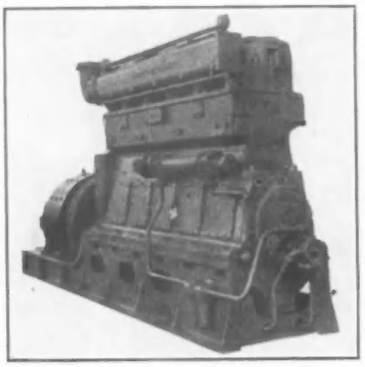
The Cooper-Bessemer Corporation

MOUNT VERNON, OHIO
Building "G" on Mid-Continent Drive and Oklahoma City Avenue

EXHIBITS: Type G-MV, gas-engine-driven, V-angle, 8 cylinder, 800 horsepower compressor unit. New Type JS vertical gas engine, convertible to Diesel. Type G-MS vertical, gas-engine-driven compressor unit, with vertical power and compressor cylinders and designed to accommodate a second horizontal compressor cylinder for two-stage operation. Type G-SC vertical 25 to 35 horsepower pumping engine, complete with radiator and fan. Type GX3A 6 horsepower starting air compressor unit, gas or gasoline fuel.

NEW PRODUCTS:

New Type JS Engines—Four-cycle gas and Diesel engines, built in five, six, seven and eight cylinder units. Bore is 13 inches, stroke 16 inches. For constant speed stationary services, gas engines are rated 56 to 87 horsepower per cylinder, while the Diesels are rated 65 to 102-horsepower per cylinder. Oil-cooled pistons are among the outstanding features and this oil-cooling reduces wear, assures lower piston temperatures, permits higher speeds and gives greater horsepower reserve. Strong steel through-bolts, extending upward from below the main bearings in the base, tie the base centerframe and cylinder block together under compression and relieve those parts of tension stresses. The Diesel engines use the patented Cooper-Bessemer controlled-pressure fuel system. Full pressure lubrication is employed. Precision bearings throughout the engines are interchangeable and renewable without hand fitting or scraping. Crankshaft is a one-piece steel forging with a diameter of nine inches. Cylinder liners are removable and fitted with oil-proof rubber grommets to seal the water joints. Meehanite Metal is used for all iron cast parts.



Cooper-Bessemer Type JS Engine

REPRESENTATIVES: B. L. Potter, A. M. Buxton, D. W. McKay, C. E. Neary, T. F. Hudgins, director of sales; S. E. Johnson, assistant sales manager; M. C. Pollock, vice president; H. A. Gehres, director of engineering research and development; R. L. Boyer, chief engineer.

The International Nickel Company, Inc.

NEW YORK, NEW YORK
Booths 64-65-66 Texas Bldg.

EXHIBIT: Various nickel alloys used in the oil industry. A roller bit of nickel-chromium steel, and a tool joint of the same material. A non-magnetic sub forged from K-Monel. Several samples of drill pipe of the new alloy, high strength, nickel-copper steel. Numerous flange fittings of nickel cast iron. Samples of Ni-Resist pipe for acid sludge lines.

REPRESENTATIVES: A. G. Zima, H. S. Lewis, B. B. Morton, F. R. Bailey and H. E. Searle.

Allied Paint Company

TULSA, OKLAHOMA
Booth 3 Kansas Bldg.

EXHIBIT: Laboratory mill. Samples of raw materials. Map showing various parts of the world from which raw products come. Paint will be made on an exact replica of factory equipment and the visitor will be shown the many ingredients necessary for paint manufacture.

REPRESENTATIVES: Dave Boylan, president; Ainslie Perrault, vice president; R. M. Gunn, vice president; A. T. Saunders, superintendent; Frank Platt, manager of petroleum sales, and R. E. Stanford, manager of trade sales.

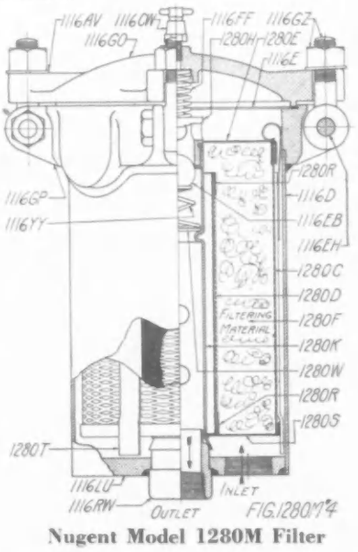
Wm. W. Nugent & Company, Inc.

CHICAGO, ILLINOIS
Booths 171-172 Oklahoma Bldg.

EXHIBIT: Oil filters. Oiling systems. Filtering systems. Anti-packed telescopic oilers for crosshead pins, crank pins and eccentrics. Anti-stand dust-proof crank pin center oilers. Oil-from-the-floor line shaft oilers. Removable glass sight feed valves. Sight-flow indicators. Oil pumps. Oil tanks. Compression pipe fittings. Oiling devices. Indicator-reducing motions. Model oiling and filtering system for oil or gas pipeline pumps.

NEW PRODUCTS:

Filter Model 1280M is a pressure liquid absorbent depth type designed with a by-pass for use where a large volume is piped to the filter and only a portion desired to be filtered. From 10 to 50 percent of the circulated oil may be passed through the filter, effecting full filtration after successive circuits of the fluid.

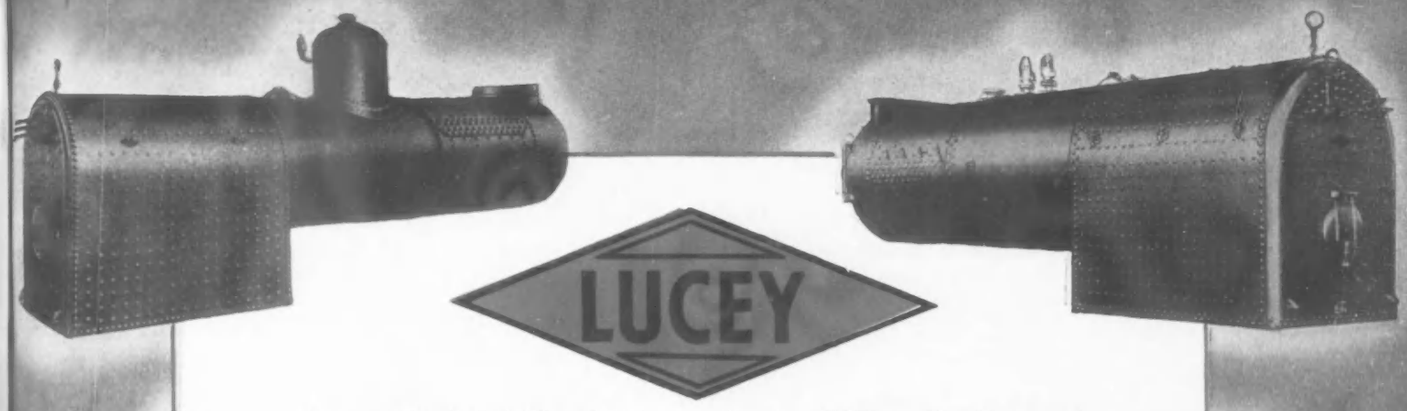


Nugent Model 1280M Filter

Oiling and Filtering System that displays the used oil being filtered and pumped back to the bearings through sight feed valves and telescopic oilers for crosshead and crank pins. Carbon black is being introduced into the oil to dirty it and demonstrate how efficiently the filter removes the carbon black, all of which may be seen through glass tubing.

Large Oil Filter—This is one of the largest oil filters ever constructed in one unit. Its maximum capacity on kerosene or fuel oil is 407 gallons per minute at 8 pounds pressure drop through the filter. It will remove articles as small as .0003 inch from the oil. It is 43 inches high and 18½ inches in diameter, having a 3-inch pipe size inlet and outlet.

REPRESENTATIVES: Corliss D. Nugent, John Vocelka, Paul Riegel, Hilmer Dahl and D. S. Deem.



LUCEY

Lucey Welded Fire Box Oil Country Boilers

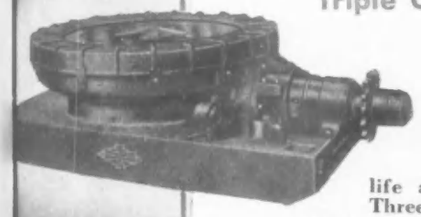
86, 104 & 125 H.P.—250 & 300 Lb. W.P.

Are A.S.M.E. Code and A.P.I. Specifications. Have full size Welded Fire Box with no rivets to overheat or burn. No leaky seams. Short tubes in vertical rows. Effective heating surface. Ample space between Crown Sheet and Outside wrapper.

Wheland-Lucey Oil Bath Swivel . . . E-6500-BA

Designed for deepest wells. Timken Tapered Main Load Roller Bearing. End thrust taken by SKF Ball Bearing located above main load bearing. Two American Roller Bearings located below the main load bearing take radial thrust and insure stem alignment.

Wheland-Lucey Triple Oil Bath Rotaries

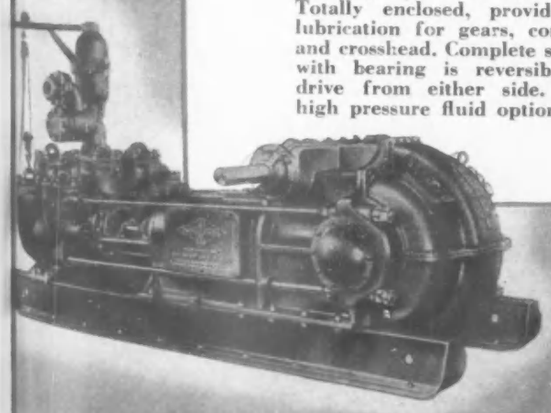


Built in three sizes—17½", 20½" and 27½", providing a machine for any size or depth hole. Designed to give increased performance, greater safety and longer life at higher rotating speeds. Three separate oiling compartments permit proper lubrication for specific areas.

Wheland-Lucey Power Slush Pump

H.P.—15000—CE 7¾" x 18"

For high pressure and deep drilling. Totally enclosed, providing oil bath lubrication for gears, connecting rods and crosshead. Complete shaft assembly with bearing is reversible permitting drive from either side. Standard or high pressure fluid optional.



Lucey Hi-Tensile Strength Oil Country Boilers

125 & 150 H.P. — 300 & 350 Lb. W.P.

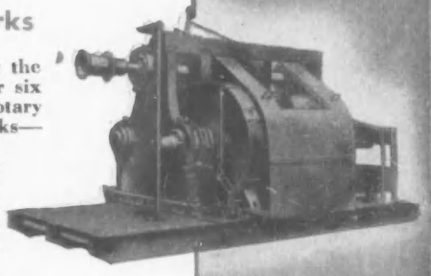
Built from high tensile plates for maximum strength with minimum weight. These boilers have Lucey Welded Fire Box—60" wide, 72" high, and 96" long. No dome necessary—but can be supplied. Space above curved Crown Sheet of Fire Box—20".

"Pittsburgh Special Double Grip" Rotary Drill Pipe

All the advantages of shoulder-welding without the disadvantages. Tight-fitting shoulder relieves the last engaged threads on the pipe of destructive vibrations and biting, and seals the joint. Available in either Internal Upset or External Upset—Internal Flush.

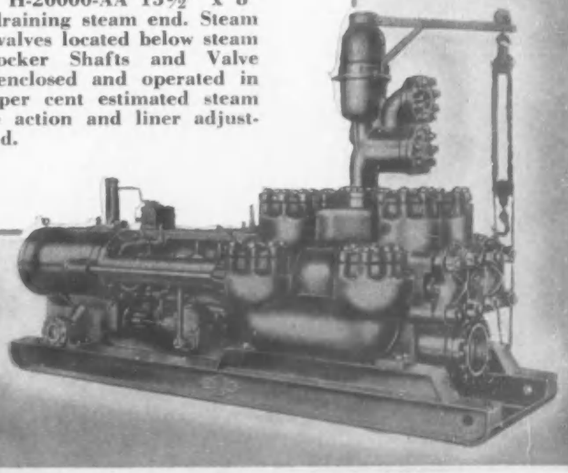
Wheland-Lucey B-3800 Drawworks

Power and speed for drilling the deepest wells. Four speeds or six speeds. All drum and rotary speeds built into Drawworks—no auxiliary speed change equipment needed. With or without sand reels. Self-aligning roller bearings throughout. Water cooled brake flanges and oil tight guards.



Wheland-Lucey 20" Duplex Steam Slush Pump

Built in two sizes, H-20000-BA 16½" x 8" x 20"; H-20000-AA 15½" x 8" x 20". Self draining steam end. Steam and exhaust valves located below steam cylinders. Rocker Shafts and Valve Links fully enclosed and operated in oil. Fifteen per cent estimated steam saving. Valve action and liner adjustment patented.



Domestic Distributor — Lucey Products Corporation, Tulsa, Oklahoma.

LUCEY EXPORT CORPORATION

OIL WELL SUPPLIES

3505 Woolworth Building, New York, N. Y.

Broad Street House, E. C. 2, London, England.
Calle Defensa 320, Buenos Aires, Argentina.

58 High St., San Fernando, Trinidad, B. W. I.
Str. Vasile Lupu No. 13, Ploesti, Roumania.

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

C. J. Tagliabue Mfg. Co.

BROOKLYN, NEW YORK
Booths 24-25 Scientific & Technical Bldg.

EXHIBIT: Oil testing instruments. Etched stem thermometers. Hydrometers and industrial thermometers. TAG-ASTM Gum Stability bomb. TAG-ASTM Acid Heat Apparatus. Colorimeter stand and daylight illuminator. TAG-ASTM Kinematic Viscosity thermometers. Various ASTM thermometers. Pyrometers. Resistance thermometers. Recording thermometers. Recording pressure gages.

NEW PRODUCTS:

"Celetray" Pyrometers and Resistance Thermometers—In this design an inertialess beam of light takes the place of the customary boom or pointer. The beam of light from the mirror galvanometer, in moving on and off a phototube, passes the "controlling edge" of a screen, thus operating relays which control a reversing motor that drives the moving contacts of the potentiometer.

REPRESENTATIVES: A. F. Rucks, vice president and general manager; E. D. Wacker, general sales manager; C. O. Fairchild, director of research; L. Van Blerkom, divisional sales manager; R. L. Wilhelm, divisional sales manager; A. G. Koenig, sales engineer; C. W. Stafford, sales engineer.

The Trackson Company

MILWAUKEE, WISCONSIN
Space E, Outside

EXHIBIT: Pipe line and oil field equipment for "Caterpillar" track type tractors.

NEW PRODUCTS:

Model PD4 Trackson Pipe Layer with Anglefiller provides utility and economy in a single unit for pipe line construction and maintenance. It eliminates the need for special backfilling machines. The angle blade is said to be easily adjustable for bulldozing dirt straight ahead or at an angle to either side. A single lever controls the raising and lowering of the blade, and a safety throw-out prevents damage from overrun in raising. The machine can be used for right-of-way or repair work, as well as for short line construction, building gathering lines and laying short loops and laterals.

Trackson Model PD4 Pipe Layer with Anglefiller

Trackson Model T2 Traxcavator

Model T2 Traxcavator or Slush Pitter is equipped with five forward speeds that provide a flexible range for various conditions and can travel on its own power at five miles per hour. It can be used for digging, loading, leveling, back-filling, bulldozing, drawbar work, etc. Various attachments make it adaptable to a wide range of pipe line and oil field work, such as clearing rights-of-way, excavating for well sites, building roads, and constructing fire walls.

Model MR5 Pipe Layer on a Caterpillar R5 tractor is a new machine of streamline design and several operating refinements. Control levers are integral with the winches, convenient to the driver's seat, and operate with minimum effort. The load line drum is equipped with a spring loaded brake for safety and accuracy of control, while the boom line has a unique type safety ratchet synchronized with the transmission, both exclusive features.

REPRESENTATIVES: W. H. Steimke, general manager; L. E. Dauer, sales manager; L. M. Clark and I. W. Kunert.

The France Packing Company

PHILADELPHIA, PENNSYLVANIA
Booth 72 Texas Bldg.

EXHIBIT: A complete line of metallic packing for all types of engines and compressors.

REPRESENTATIVES: J. A. McPeak and J. M. Fuller.

Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA
Booths 12-16 Oklahoma Bldg.

EXHIBIT: Integral joint drill-pipe. Bell and spigot casing. Gilmore wire rope. Permalined steel pipe.

NEW PRODUCTS:

J & L Permalined Steel Pipe is cement lined, designed for transmitting highly corrosive fluids and acids. A special formula, not available on the open market, is used in lining the pipe. The mix is placed in the pipe and forced against the walls by a process which, at the same time, extracts a high percentage of the water. The process is designed to provide a lining with the highest physical properties and to result in even distribution of the mixture.

The combination of the special mixture and the process produces an even interior coating in the J & L pipe, so smooth that the lining has a lower friction coefficient than the original pipe, yet is strong enough that no special handling in the field is required to protect the lining, except that the pipe cannot be deformed. The pipe can be shipped, cut to length, and fitted just as unlined pipe—the lining being able to withstand without chipping any blow on the exterior of the pipe which does not actually dent the pipe. This pipe has the same working pressures as regular steel pipe and, while J & L does not manufacture fittings, it is in a position to supply lined fittings for use with this pipe, which is available in sizes of ½ to 12 inches, inclusive, and 14 inches, O.D., in special cases.

REPRESENTATIVES: W. H. Wiewel, J. O'H. Anderson, W. K. Breeze, T. W. Bell, F. D. Winslow, H. E. Fisher, W. R. K. Scott, W. A. Huber, Sam Tennant, G. E. Tyson, W. C. Jamieson, Oscar Watkins, J. F. Murray, A. P. Holloway, H. N. Keener, H. L. Summers, E. C. Hoye, A. E. Crockett, John Perry, H. L. Whitelaw, P. D. Thomas, George Bond and R. M. Gibbs.

Walter Kidde & Company

NEW YORK, NEW YORK
Portable Laboratory

EXHIBIT: Fire fighting demonstration. New wrinkles in scientific fire fighting, particularly through the use of carbon dioxide or dry ice for smothering inflammable liquid fires, will be demonstrated. In order to put on these demonstrations it was necessary to build and equip a 10-ton traveling laboratory. Tulsa is a major stop on a nation-wide tour. Fires will be started in tanks of gasoline, oil, benzol and other liquids, and extinguished by discharging clouds of artificial snow and gas.

REPRESENTATIVES: P. W. Eberhardt and Edward Wilson.

"CLEVELANDS" TAKE 'EM IN STRIDE

—The Tough, Hard Spots or Easy Going
—The Usual or the Unusual!

MODEL 140

On transmission and main lines—scatter field and gathering lines—"hot-spot" reconditioning or taking up existing lines—stripping pipe—wherever you put them, "Clevelands" field-tested in all soils . . . loose sand, sticky gumbo or rocky ground . . . deliver maximum footage, meeting conditions as they are.

Soundly engineered, ultra-modern in design with waste motion done away with and dead weight and unnecessary bulk eliminated, "Clevelands" are built to "take it" day in and day out, taking the usual and the unusual right in stride. They're the type of ditcher you'll find a pleasure to own and operate.

Write for specifications and details today.

See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY. 18-25

THE CLEVELAND TRENCHER COMPANY

"Pioneer of the Small Trencher"

20100 ST. CLAIR AVENUE **CLEVELAND, OHIO**

CLEVELANDS

General Offices:

120 Broadway, New York

AMERADA PETROLEUM CORPORATION

Beacon Building,

Tulsa, Oklahoma

B. F. McDonald Company

LOS ANGELES, CALIFORNIA
Booth S-4, Texas Bldg.

EXHIBIT: Dustfoe respirator, Kanister kit, ear guards and safety insoles.

NEW PRODUCTS:

McDonald Dustfoe Respirator makes use of the positive acting United States Army gas mask-type exhalation valve, which allows for complete drainage of condensation, permits the use of a deeper facepiece, and provides exceptional wearing comfort. The respirator carries the United States Bureau of Mines approval numbers BM-2115, 2126 and 2132 for complete protection against harmful dusts and irritants, including lead dust. Every part of the respirator is replaceable. A protective filter cover is designed to prevent contamination of the cellulose filter by grease and dirt from hands or equipment. Full vision in every direction is provided, and wearing the respirator does not interfere with goggles or any head covering. It weighs only 3¼ ounces.

McDonald Dustfoe Respirator

McDonald Kanister Kits provide on-the-spot first aid materials for isolated workmen in yards and fields, truck drivers and drillers. The kit consists of a drawn aluminum cylindrical canister designed to be dust, water and corrosion proof. Within the canister is a canvas roll-up kit containing either a standard or special assortment of first aid materials. Access to kit is provided by a thumb-and-finger release, and the kit may be draped over the forearm, leaving both hands free for treatment and at the same time keeping the materials off the ground and away from possible contamination. It may be mounted anywhere; a bracket makes servicing a matter of moments.

McDonald Safety Insole provides a protective armor of watch-spring steel for the sole of the foot. For use primarily with rubber boots, it protects

McDonald Kanister Kit

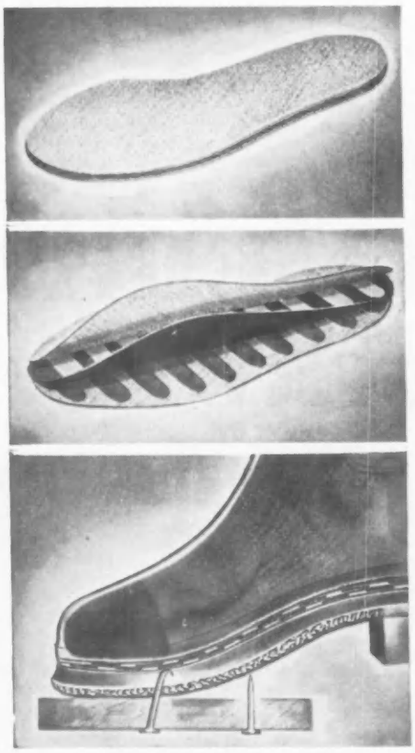
oil field workers from unseen hazards such as nails, steel fragments and spikes. Construction is of three-ply rubber coated fabric, with two rows of staggered steel strips, one cemented to the bottom ply and one to the center ply. Staggering of the steel strips provides full protection yet allows flexibility, the insole bending easily with the movement of the foot.

McDonald Ear Guard is made of sponge rubber, with a metal screen covering the orifice to afford protection to the opening of the ear without interfering with normal hearing. A flexible

McDonald Ear Guard

headband makes it adaptable to all head-sizes and contours. It may be worn either with welding goggles or welding hood. The device weighs two ounces.

REPRESENTATIVES: B. F. McDonald, Los Angeles, and J. J. Delahide, Houston.



McDonald Safety Insole

The Chaplin Fulton Manufacturing Company

PITTSBURGH, PENNSYLVANIA
Booth 40 Scientific and Technical Building

EXHIBITS: "Vigilant" liquid level regulator, remote control type. Pressure reducing and back pressure regulators, for oil, gas and all other mediums and for all pressures. Pilot loaded reducing regulators. Cut-aways will show features of design and construction.

REPRESENTATIVES: T. H. Thorn, J. P. Kelly, W. R. Shiperly.

Wall Rope Works, Inc.

NEW YORK, NEW YORK
Booth 27 Texas Bldg.

EXHIBITS: Complete line of Wall "Black Gold" cat lines and other oil field cordage.

REPRESENTATIVES: J. L. Dittman, Gerald C. Terry, J. A. England, A. A. Thomas.

FOR OIL WELL CEMENTING . . . OR CONCRETE CONSTRUCTION

Play Safe WITH TRINITY CEMENTS

TRINITY CEMENTS are great favorites with operators throughout the Southwest who use these dependable cements for every type of oil well cementing and concrete construction job. It will pay you, too, to play safe with TRINITY. Whatever your cement needs, Trinity Portland Cement Company—with years of proven experience and integrity—can supply you. Three conveniently located plants assure prompt delivery.

See Our Exhibit INTERNATIONAL PETROLEUM EXPOSITION TULSA MAY. 18-25

Visit with us in Booths 85 and 86 in the Oklahoma Building when you attend the Tulsa Exposition.

REG. U. S. PAT. OFF.

TRINITY PORTLAND CEMENT COMPANY

DALLAS . . . FORT WORTH . . . HOUSTON

ORDER FROM YOUR LUMBER AND BUILDING MATERIAL DEALER

There's a TRINITY CEMENT for EVERY CEMENTING NEED

Web Wilson Oil Tools

HUNTINGTON PARK, CALIF.
Booth 86 Kansas Bldg.

EXHIBITS: Web Wilson rotary tong, regular and extra heavy. Web Wilson center latch elevator for A.P.I. and Hydril pipe.

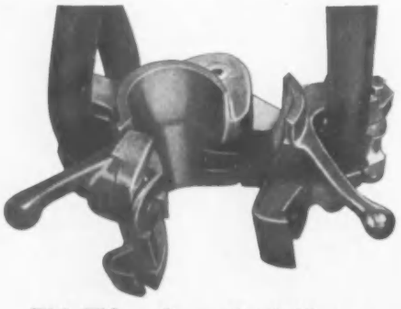
NEW PRODUCTS:

Web Wilson Rotary Tong is made of special high strength, heat treated steel. With the three-jaw tong head, a change of but one jaw changes the tong from any one drill size to another. Each jaw positively grips all sizes from full hole to worn tool joints, eliminating the necessity of extra latches, bushings, sliding blocks, etc. The three-jaw principle reduces the number of wearing parts and increases the tong's life.

Web Wilson Rotary Tong

The stirrup-type latch gives equalized stress and is so constructed as to be impossible to open while the tong is under load. Proper balance is quickly accomplished with the simplified hanger which eliminates turnbuckle rods, providing more room for the operator to work. The simplified rope-attachment means on the lever, protected hinge pins, die slots from which the dies cannot be lost and other features stress the keynote of safety for which this tong was built.

Web Wilson Center Latch Elevator—Special alloy steel and exacting heat treatment increase the safety factor. The new princip'e of surrounding the pipe more than 180° with one-half of the body for external upset pipe eliminates the excessive stresses in the hinge pin and latch. The hinge spring which automatically opens the elevator when the latch is released also holds it in the normal vertical position when running empty and open. The latch embodies an integral safety lever which prohibits its opening when the elevator is under load; its latch handle is located low on the elevator for convenient fast operation in the derrick.



Web Wilson Center Latch Elevator

REPRESENTATIVES: W. W. (Web) Wilson and Byron M. Landis.

Regan Forge and Engineering Company

SAN PEDRO, CALIFORNIA
Booths 198-199-200-251-252-253
Oklahoma Bldg.

EXHIBIT: Crown block. Swivels. Blowout preventers. Mud Screen. Casing and control heads. Combination hooks. Casing centralizer. Oil savers. Rod strippers. Sleeve type rods. Gin pole sheaves. Swabbing sheaves. Bettis casing protectors and stabilizers. Various types of equipment suspended and rotating will be displayed. A new type stereoscopic projection will present enlarged kodachrome views of Regan equipment in the field. The narrow type 121-inch traveling block, 156 inches high, will be suspended from a specially fabricated structure.

Regan 300-Ton Multiple Bearing Swivel

NEW PRODUCTS:

Mud Screen.
Casing Centralizer.
Multiple Bearing, 300-Ton Swivel.
Blowout Preventers.

REPRESENTATIVES: Tom Regan, C. M. Fuller, Stanley Minor, Tut Lee and R. A. Hill.

Wheeling Corrugating Company

WHEELING WEST VIRGINIA
Booth 76 Kansas Bldg.

EXHIBITS: Steel shipping containers, 1 to 70-gallon, gauges from 18 to 28. Plain painted any color, lithographed or printed with labels, etc.

REPRESENTATIVES: R. L. Brammer, manager of sales; F. E. Hawley, Jr., manager New York City office; J. E. Boddy, district sales manager.

Electrical Treating Company

DALLAS, TEXAS
Booth 178 Kansas Bldg.

EXHIBIT: Equipment for removing paraffin deposits from pumping wells.

NEW PRODUCTS:

Electrical Paraffin Treating Process—This new method for removing paraffin deposits by heating the tubing electrically involves the use of a direct current generating unit, tubing insulators, spring contacts insulator between the casing and tubing at the surface and other equipment. Subsurface equipment is installed permanently in the well. The current passes down the tubing, across to the casing at the desired level in the well, and returns to the surface through the casing or formation. The tubing temperature is raised appreciably because of its smaller diameter and greater resistance. Melted paraffin is pumped out.

REPRESENTATIVES: R. H. Allen, I. C. Looman and P. W. Cullen.

Manzel Brothers Company

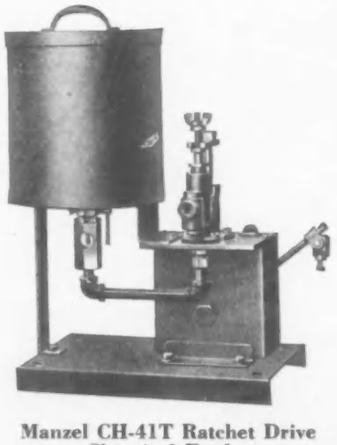
BUFFALO, NEW YORK
Booth 50 Oklahoma Bldg.

EXHIBIT: Force feed lubricators. Chemical feeders.

NEW PRODUCTS:

Series "40T" Chemical Feeders, with overhead round tank and sight feed, are designed to inject the chemical into the oil line in exact proportion to the amount of oil being pumped, and can be regulated to supply any desired amount of chemical. All of the driving mechanism is enclosed and operates in a bath of oil. The pumping unit, which is the only part of the feeder which comes in contact with the chemical, is outside of the feeder where it is readily accessible.

A large, clear-vision sight glass, between the chemical tank and pumping unit, shows exactly how much chemical is being pumped. These feeders are



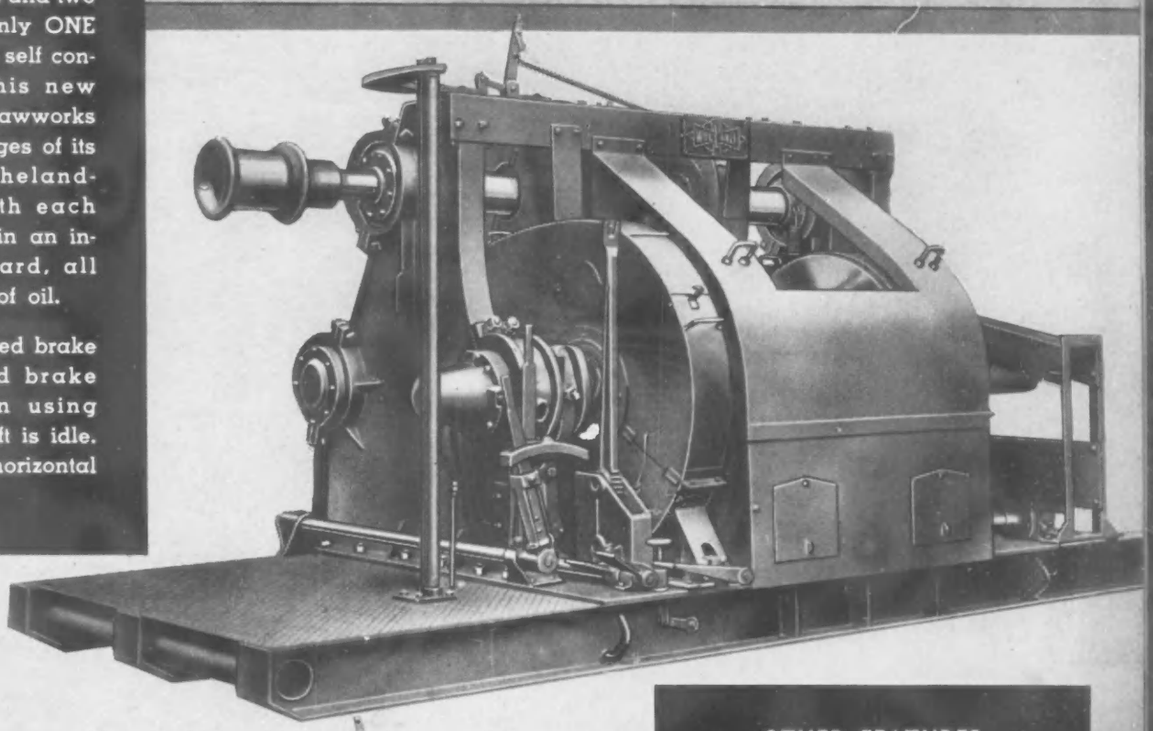
Manzel CH-41T Ratchet Drive Chemical Feeder

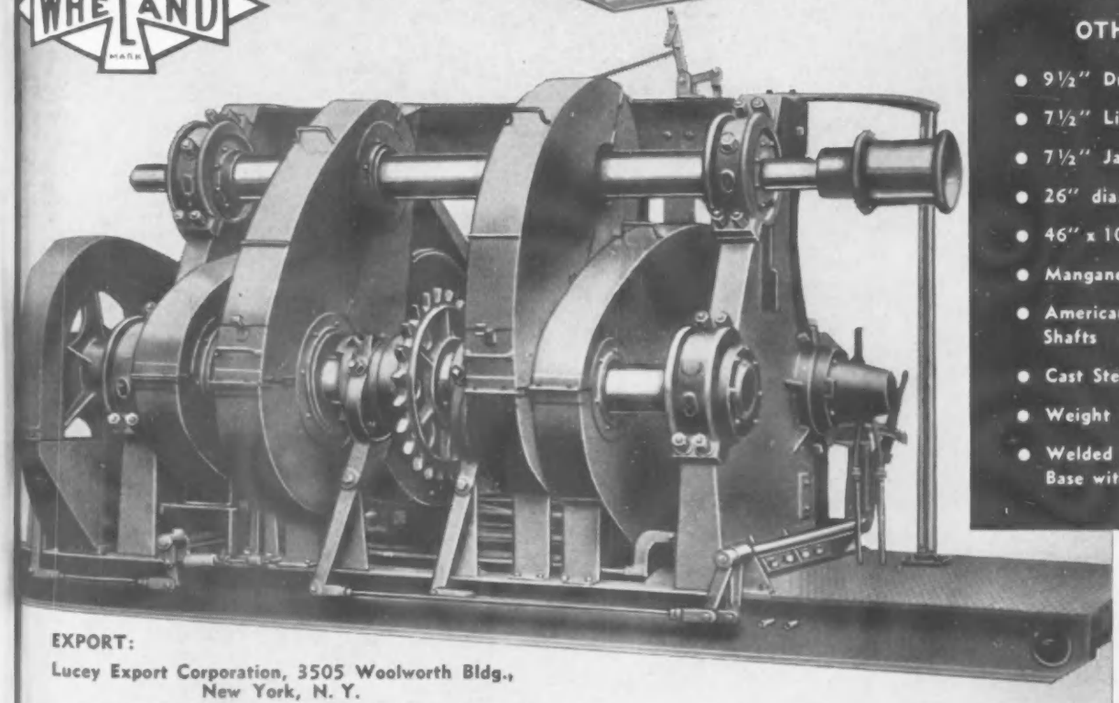
Check the Many Features of this
WHELAND-LUCEY DRAWWORKS

MODEL B-3200-A

With four Drum Speeds and two Rotary Speeds, and only ONE Engine Drive Sprocket, self contained in one unit, this new B-3200-A Unitized Drawworks offers distinct advantages of its many time-proven Wheland-Lucey features. With each chain drive enclosed in an individual oil-tight guard, all chains run in a bath of oil.

Rolled steel water-cooled brake flanges and patented brake band equalizer. When using High Speed, Line Shaft is idle. Drum driven with horizontal chains.





OTHER FEATURES

- 9½" Drum Shaft
- 7½" Line Shaft
- 7½" Jack Shaft
- 26" dia. 33" long Drum
- 46" x 10½" Brake Rims
- Manganese Sprockets and Clutches
- American Roller Bearings on all Shafts
- Cast Steel Side Housing
- Weight Complete—29,000 lbs.
- Welded Steel Sled Type Extended Base with Treaded Platform Plate

EXPORT:
Lucey Export Corporation, 3505 Woolworth Bldg., New York, N. Y.
Broad Street House, London, E. C. 2, England

DISTRIBUTORS:
Lucey Products Corporation
Tulsa, Oklahoma
Houston Oil Field Material Co., Inc.,
Houston, Texas
Murray-Brooks Hardware Co., Ltd.,
Lake Charles, Louisiana

THE WHELAND COMPANY

ROTARY DRILLING EQUIPMENT

Chattanooga, Tenn.

YOU know
IT'S SAFE . . .
be

because it's SEAMLESS

Good operators take no unnecessary risks . . . that's why they prefer "Walls Without Welds"

ANY drilling contractor of wide experience knows that about the worst place in the world to have trouble is down in the hole. And to avoid unfortunate consequences, he knows that it pays to use nothing down there but the very finest, most trustworthy equipment.

That's why NATIONAL Seamless Casing has won such universal favor. For in this product there is no weld, no long line of potential weakness; each length is a perfectly formed cylinder, pierced from a solid billet of highest quality steel. Its walls have uniform strength and are thoroughly dependable throughout.

Because of the extra assurance of trouble-free service that is inherent in NATIONAL Seamless products, the word "Seamless" has come to stand for the finest casing, drill pipe, and tubing obtainable for oil well service. It is a standard which may be approached but is never quite equalled.

In today's deep wells where uncertainty prevails, why experiment? Wouldn't it be better to standardize on proved products—NATIONAL Seamless Casing, Drill Pipe, and Tubing? Write today for complete data.

NATIONAL TUBE COMPANY

PITTSBURGH, PA.

United States Steel Export Company, New York

UNITED STATES STEEL

THESE OUTSTANDING DEVELOPMENTS PIONEERED BY NATIONAL TUBE

- Seamless Drill Pipe
- Seamless Upset Tubing
- Seamless Long Threads and Couplings
- Seamless Grade "D" Casing* (now J-55), also Grade "D" Drill Pipe and Tubing
- Seamless Upset Casing
- Seamless with Rounded Form of Thread
- Seamless with Electro-Galvanized Threads and Couplings
- Seamless Normalized Tubing for Corrosive Conditions
- Seamless Cement Lined Casing and Tubing

To be sure of getting the newest, most up-to-date improvements in Drill Pipe, Casing, and Tubing, always specify NATIONAL Seamless. National's policy is to bring you finer, stronger tubular goods, and bring them to you First!

*NATIONAL Seamless Casing is available in sizes up to 24½" O.D., the only *seamless* casing larger than 16" O.D.

NATIONAL Seamless means pierced from solid billets of the finest quality steel. Only sound and flawless steel can be used for piercing, since any existing defects cannot be covered up in this process. At every stage in production thorough inspections and tests give you double assurance that each length of NATIONAL Seamless will display the same uniform wall strength, dimensional accuracy, and uniformity in all physical properties.
WALLS WITHOUT
WELDS

NATIONAL SEAMLESS

supplied with an eight-quart capacity, heavy steel chemical tank which is placed above the feeder, the entire outfit being mounted on a steel base as illustrated. They are furnished with ratchet or direct lever drive, reduced or direct rotary drive, or with electric motor or rotary gas drive.

Model "94" Force Feed Lubricators have been designed especially for the lubricant of Diesel and gas engines, air and ammonia compressors, and other equipment requiring efficient lubrication with a minimum amount of oil. They are of the liquid sight feed type, a single plunger pumping unit drawing the oil from the reservoir and forcing it through the liquid filled sight feed glass, directly to the point to be lubricated. Large tubular sight feed glasses, guaranteed to withstand 1,500 pounds pressure, show the amount of oil being supplied.

Manzel 7-Pint, 3-Feed, Left-Hand Ratchet Drive Model 94 with Horizontal Outlets

On these lubricators the pumping units are oil sealed, an exclusive "Manzel" feature. There is an individual pumping unit for each point to be lubricated and each unit is independently regulated. All working parts are enclosed in the reservoir and operate in oil. They can be furnished with from one to 24 feeds—with either ratchet or rotary drive.

REPRESENTATIVES: Albert S. Isch, sales manager; W. C. Jackson, oil field representative, and H. J. Manzel, president.

C. A. Mathey Machine Works

TULSA, OKLAHOMA
Booth 39 Scientific and Technical Bldg.

EXHIBIT: Types E and G measuring line reels. Measure meter. Gas testing equipment. The Type E Measuring line reel will be shown in actual operation with hydraulic speed control and governor.

REPRESENTATIVES: C. A. Mathey and L. V. Orton.

South West Box Company

SAND SPRINGS, OKLAHOMA
Booth 18 Kansas Bldg.

EXHIBIT: Corrugated shipping containers.

REPRESENTATIVES: H. L. Waterstreet, vice president; J. H. Winder and M. F. La Grone.

Bethlehem Steel Company

BETHLEHEM, PENNSYLVANIA

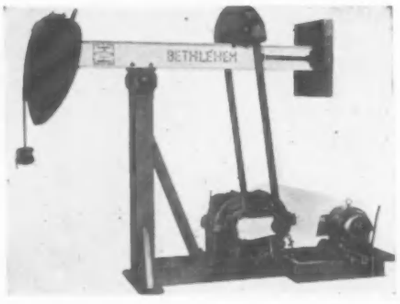
Bethlehem-International Supply Company

TULSA, OKLAHOMA
Bethlehem Bldg.

EXHIBITS: Wire rope, including rotary line. Bethanized torpedo line. Bethanized measuring line. Comparison specimens of Bethanized "Hot Dipped" wire. Tubular products. Sucker rods. Headed and threaded products, including variety of alloy and corrosion resisting bolts, nuts, screws and studs and other specialties. Well head fittings, including new lubricated stuffing boxes and gear reduction box. Outside display: Pumping units. Engine-generator set. Cantilever mast. "Gumbo Buster" rotary equipment. Well servicing unit. Portable Rex pump.

NEW PRODUCTS:

Type 24-DT-5 Bethlehem Pumping Unit represents a new design, making use of electric welding throughout its structure. The base frame and samson post is an integrally welded, rigidly braced structure. Both beam bearing and pitman ends are rubber mounted.



Type 24-DT-5 Bethlehem Pumping Unit

A means for protecting the reduction gears from sudden impulses or well shocks is thus afforded. Another feature is the extensive use of self-aligning roller bearings in the wrist pin and tapered roller bearing throughout the gear reducer.

Type 51-DT-10RB Pumping Unit uses full rotary balance featuring a unique method for removing and inserting counterbalance weights on and off the crank. A new type of tail bearing assembly featuring a newly designed tail bearing hanger bracket and

Type 51-DT-10RB Bethlehem Pumping Unit

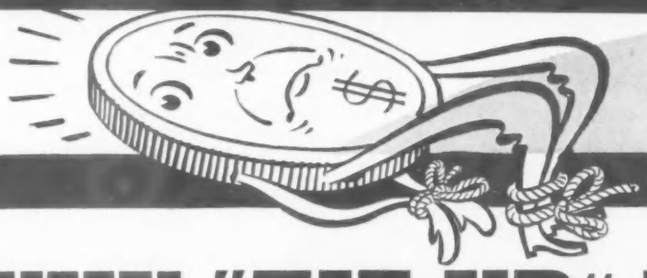
a positive method for controlling clearance of alignment bearing.

Lubricated Stuffing Boxes—Positive lubrication of the two new Bethlehem boxes is effected by using a new type of molded ring in conjunction with pressure lubrication through both the cap and the body of the stuffing box.

REPRESENTATIVES: From Bethlehem Steel Company—J. V. Honeycutt, assistant vice president; J. M. Ellis, general manager of sales; E. A. Buxton, manager of sales, pipe and tube; C. R. Zimmerman, salesman; L. C. Torell, sales engineer; L. H. Winkler, metallurgical engineer; K. H. Read, metallurgical contracts; P. E. McKinney, metallurgical engineer; G. Laschober, metallurgical contracts; all of Bethlehem, Pennsylvania. B. C. Macgregor, manager of sales, St. Louis; W. R. Pinnman, Lebanon, Pennsylvania; H. M. Cooley, Johnstown, Pennsylvania; H. H. Fuller, manager of sales, New York; T. R. Blackwell, sales representative, Wichita, Kansas; J. E. Moore, manager of sales, Houston; O. E. Berg, salesman, Houston; C. B. Hinton, salesman, Houston;

From Bethlehem Supply Company—G. A. Tompson, vice president; R. G. Ayers, sales manager; H. R. Powers, assistant sales manager; R. E. Dow, assistant sales manager; H. A. Wilson, manager price and order control; B. E. Groenewold, manager machinery department; V. W. Bailey, division manager; C. C. Crider, division manager; R. A. Johnson, machinery engineer; H. A. Barnes, Van D. Bennett, J. T. Fretwell, D. C. McLaughlin, sales engineers; R. A. Johnson, T. B. Simpson, R. W. Neal, G. W. Stage, Bruce Harris, salesmen; W. A. Chaney, assistant division manager; R. E. Throckmorton, Charles Chapman, R. A. Brown, M. W. Bass, T. H. Salter, R. L. Neal, W. T. Davis, J. H. Thrig, district managers;

From the Tulsa plant—G. S. Comstock, assistant manager of construction; J. S. Eaton, manager; William Conrade, superintendent; R. L. Cobb, assistant superintendent; R. W. Trimble, foundry foreman; L. W. Weeks, machine shop foreman; J. B. Wrigley, mechanical engineer; Tulsa representatives of Bethlehem Steel Company: William Chapman, J. G. Burke, Otto Buenting, C. A. McCarty, W. Alexander, salesmen; J. J. Lovell, G. A. Dudley, sales engineers.



WHY "TIE UP" MONEY IN POWER PLANTS...?

Your Electric Power Company Assumes This Investment!

- **Pay Only for Power Actually Used**
- **Initial and Maintenance Costs Are Reduced**
- **Enjoy the Benefits of a Continuous, Dependable, Economical Source of Supply**

● *This profit-minded Mid-Continent operator is avoiding "frozen capital" by his use of Utility Electric Power!*

POWER CAPITAL INVESTMENT is now a thing of the past for progressive operators. They're finding more capital mobility — increased efficiency — And wherever this modern power goes into action, profits rise!

YOUR ELECTRIC POWER COMPANY assumes your power capital investment, with Utility Electric Power. You get the power you pay for . . . and you pay only for power used! Other economy features insure greater savings: Less initial, maintenance and operating costs . . . instant starting and stopping, thus less downtime . . . and greater power flexibility.

YEARS ARE ADDED to the life and efficiency of your equipment, when it is powered by Utility Electric Power—and this equipment, made more portable, commands a higher salvage value. These modern power features combine to produce oil field power that is economical . . . efficient . . . dependable . . . and above all, profitable!

NOW IS THE TIME to acquaint yourself with Utility Electric Power's possibilities in your own setup. This valuable information is yours, without obligation, at your nearest electric power company. Consult them today, won't you?

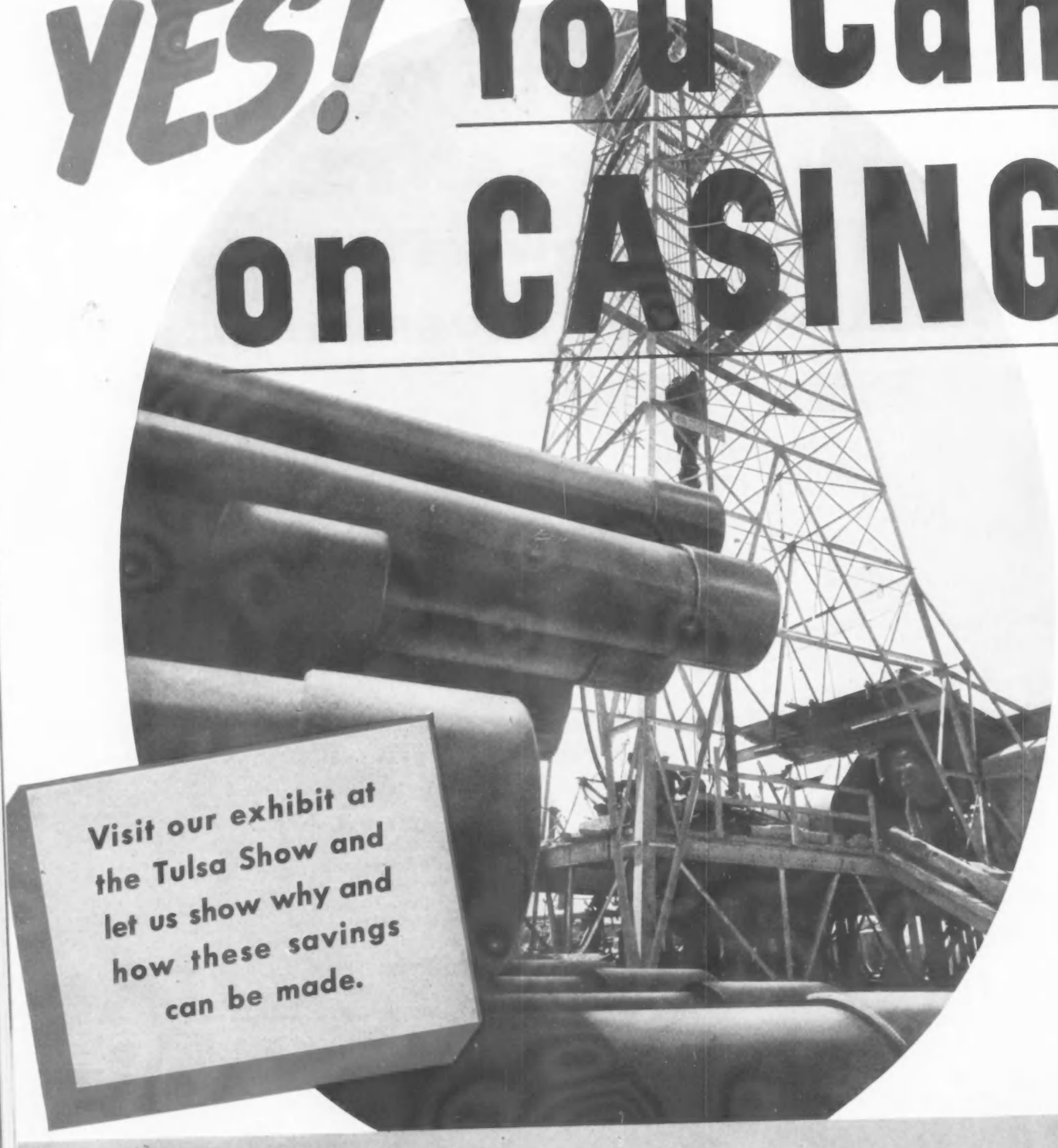
PROFIT! BY USING Utility ELECTRIC POWER

The Petroleum Electric Power Association is the outgrowth of a desire on the part of electric power companies to render greater service, through cooperative effort, to the Petroleum Industry.

Use Utility Electric Power

PETROLEUM ELECTRIC POWER ASSOCIATION

YES! You Can S
on CASING w



A.O. SMITH

SAVE MONEY with SAFETY!

YES, you can save as much as $1,000.00, or even more, in the cost of casing each well. Before you next place an order for casing, send your inquiries or call the nearest A. O. Smith office. Let Smith engineers show you the exact saving on any specific job.

By exclusive processes, Smith gets greater collapse resistance, greater resistance to pull-out. The saving in amount of steel required to meet your specifications is passed on to you.

Adequate stocks for quick service are near you. A. O. Smith Corporation, Milwaukee, Wisconsin. Offices at New York, Pittsburgh, Chicago, Tulsa, Dallas, Shreveport, Houston, Corpus Christi, Los Angeles.

See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY 18-25

CORPORATION

Milwaukee, Wisconsin

MANUFACTURERS OF ELECTRIC-WELDED

Casing

Pressure Vessels · Line Pipe

Texasteel Manufacturing Company

FORT WORTH, TEXAS
Block 3, Outside

EXHIBIT: Texasteel "electric steel" sucker rods will be displayed loaded on a specially designed truck, as is done in the company's rapid delivery service.

REPRESENTATIVES: A. J. Armstrong, L. C. Scott, J. F. Foster, John Paxton, Worth Daniel, J. R. Holden, T. Killman, R. C. Armstrong, R. A. Clampitt, W. A. Doremus, E. S. Hudson, E. A. Schambs and B. K. Buffington.

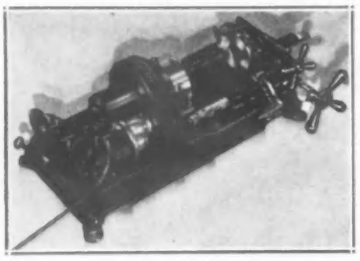
Beaver Pipe Tools

WARREN, OHIO
Booths 42-43 Oklahoma Bldg.

EXHIBITS: Full modernized line of Beaver pipe tools. Model B portable pipe and bolt machine. Model C power unit. No. 71 series pipe and bolt threaders.

NEW PRODUCTS:

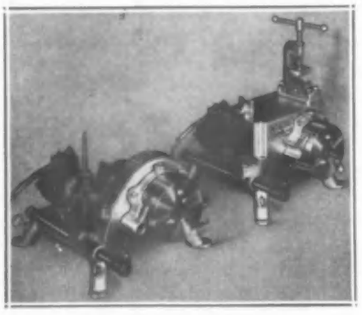
Model B Pipe and Bolt Machine is portable, light weight, and low priced. It has a complete range within the machine from ⅛ to 2-inch and by means of a drive shaft will operate geared cutters and threaders up to and including 8-inch.



Beaver Model B Pipe and Bolt Machine

Model C Power Unit is available in both the C-1 and C-2 types, which differ only in design so that the Model C-2 may accommodate a pipe vise. These are light weight, easily portable and low priced units that makes pipe machines of any make of hand tools from ⅛ to 2-inch in the machines and then by means of a drive shaft will operate geared cutters and threaders up to and including 8-inch. Eight-inch pipe is threaded in six minutes.

Beaver Model 71 Pipe and Bolt Threader



Beaver Model C Power Unit

No. 71 Series Pipe and Bolt Threaders are fully adjustable tools, using no loose bushings and design provides for perfect oiling and chip clearance—two advantages in producing good threads and prolonging die life. Several other new features are incorporated.

REPRESENTATIVES: C. W. Smith, oil field representative, Dallas; Avery Phillis, Chicago district manager; E. R. Barkley, sales promotion manager, Warren, Ohio.

Sullivan Machinery Company

MICHIGAN CITY, INDIANA
Block 7 Outside

EXHIBITS: Sullivan 300 motorized drill. Shock absorbing attachment for beam type pumping rigs, known as the "Alleviator." Sullivan pneumatic pumphead. Core-drilling bits and accessories. Portable air compressors. Pneumatic rock drills. Other air tools.

NEW PRODUCTS:

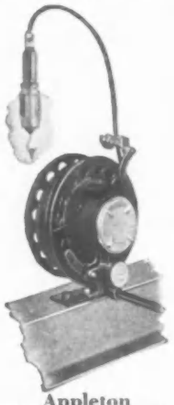
Sullivan 300 Motorized Drill—Complete portable drill for deep structure testing, slim hole production drilling and drilling for electrical logging. It has a capacity of 3500 feet as a slim production drill. It is arranged for Kelly drive with 11⅝-inch table opening. The mast is 60-foot, built in two pieces of tubular seamless alloy steel with multiple sheave and cat line blocks, safety type combination rodman's platform and rod rack. The unit displayed is powered with two Ford Mercury units that can be compounded for draw works drive. Mud pump is being driven by power take-off from the truck engine.

REPRESENTATIVES: F. W. Copeland, president; J. W. Haddock, vice president; H. T. Walsh, vice president; C. L. Dunham, export manager; J. B. Martin, J. A. Noyes, F. W. Harrison, H. E. Butters, W. A. Krevis, G. E. Smedberg, E. R. Janson, J. E. M. Schultz, H. H. Vanderzee.

Appleton Electric Company

CHICAGO, ILLINOIS
Booth 63-64 Kansas Bldg.

EXHIBIT: Lighting fixtures. Panelboards. Pilot lights. Plugs and receptacles. Junction "Unilets." Circuit-breaker "Unilets." Motor starting "Unilets." Explosion-proof automatic take-up "Reelites."



Appleton Explosion-Proof Reelite

NEW PRODUCTS:

Explosion - Proof Reelite is especially designed for use in hazardous locations and is particularly adaptable for use in connection with an explosion - proof hand lamp for making inspection in and around hazardous locations.

REPRESENTATIVES: F. S. Donahue, sales engineer; H. R. Johnson, sales engineer; H. T. White, sales engineer; N. A. Tornblom, chief engineer; M. J. Whitfield, general sales manager.

Le Roi Company

MILWAUKEE, WISCONSIN
Lot R, Outside

EXHIBITS: D71 air cooled valve-in-head pumping engine. BXP7 4-cylinder L-head pumping engine. D201 4-cylinder valve-in-head pumping engine. 5DD133P 5-kw. engine-generator set. RX1S 6-cylinder valve-in-head drilling engine. RX1VS 12-cylinder valve-in-head drilling engine.

NEW PRODUCTS:

Model 71 Engine—Heavy-duty air-cooled pumping engine developing 7-13 horsepower designed especially for oil field service. This four-cylinder valve-in-head engine is equipped with a heavy duty oil field type Twin Disc clutch and extra heavy flywheel to maintain constant speed under the varying load of oil field pumping. The crankshaft runs in three precision type bearings,

Le Roi Model 71 Engine

IT'S REPUBLIC ELECTRIC WELD—
Casing and Tubing

We know it will

WIN

your approval as soon as you see it. The

PLACE

to see it is at the International Petroleum Exposition, May 18th to 25th, Spaces 103 to 114, inclusive, in the Kansas Building. There we shall be glad to talk over your problems and to

SHOW

you how the latest developments in casing and tubing manufacturing methods give you a product that has no equal—and the reasons why.

★ ★ ★

And just in case you are not fortunate enough to visit the show this year—we suggest that you permit us to send you our new folder giving collapse and joint strength data on Republic Electric Weld Casing. Copy sent on request.

These are some of the Republic Steel Products which you can see and obtain first hand information on at our exhibit—

Alloy Steels for every type of equipment
Upson Quality Headed and Threaded Products
ENDURO* Stainless and Heat-Resisting Steels
Electrunite* Boiler and Condenser Tubes
Niles Steel Shipping Containers
Steel, Copper-Bearing Steel and Rust-Resisting Toncan* Iron Pipe, Strip, Sheets, Plates, Bars
Union Cold Finished Steel Bars and Shafting
Berlay* Steel Shelving—Bins—Lockers
Truscon Standard Steel Buildings
Toncan Culverts for subdrainage
Republic Electric Weld Line Pipe—*We can ship it faster than you can lay it.*

*Reg. U. S. Pat. Off.

CORPORATION

CLEVELAND, OHIO

SUBSIDIARY
REPUBLIC SUPPLY CO.
Headquarters—Tulsa

valves seat on chrome molybdenum inserts which seldom require grinding, and the cylinders and crankcase are an integral casting which makes the engine unusually rigid in construction. The engine is furnished with a force-feed lubrication system assuring adequate oil for all bearing surfaces. The engine's large oil capacity, coupled with the finned sump, maintains the oil at a low temperature thereby keeping the consumption and maintenance costs at a minimum. This engine is also offered for uses other than pumping, equipped with a standard-weight flywheel and a complete line of power take-offs including clutches and speed reducers. The D71 is available as an open unit, or fully enclosed, in an ultra-modern steel housing.

REPRESENTATIVES: C. W. Pendock, president; J. R. Frantz, vice president; A. F. Sheller, secretary and works manager; W. R. Karll, general sales manager; P. W. Eells, technical sales manager; J. D. BeVier, service manager; L. G. Valdes, manager Tulsa branch; D. W. Mortonson, office manager Tulsa branch; Russell Pride, sales engineer; C. Vogt, service; H. Hummer, service; F. Lytle, service; R. Moss, service.

American-La France-Foamite Corporation

ELMIRA, NEW YORK
Booths 102-103 Texas Bldg.

EXHIBIT: Foam-type fire extinguishers. "Poweron" nozzle. Diversified line of fire-fighting apparatus.

NEW PRODUCTS:

Two and one-half gallon Foam Extinguishers—These 500-pound tested extinguishers, approved by the Underwriter's Laboratories, are of Monotype Shell construction, each drawn from a single sheet of high tensile strength, corrosion-resisting alloy. This construction eliminates the riveted longitudinal seam of the ordinary fabricated extinguisher.

Poweron Fire Hoze Nozzle

Foamite 2½ Gallon Fire Extinguisher

"Poweron" Nozzle is designed for general use on fire hose lines and for discharge of large quantities of water in a form especially safe for fighting fires in live electrical equipment. Approved by Underwriter's Laboratories for use on circuits carrying current at voltages as high as 250,000 volts. The Factory Mutual Laboratories approve this nozzle for fighting fires in liquids with flash points as low as kerosene.

REPRESENTATIVES: D. D. Fitzgerald, district manager; J. A. Harte, Tulsa representative; R. M. Spurlock, Shreveport representative; E. B. Reynolds, Oklahoma City representative; L. E. Bush, Oklahoma City representative; S. McKenny, Houston office.

J. P. Devine Manufacturing Company, Inc.

MT. VERNON, ILLINOIS
Booth 120 Kansas Bldg.

EXHIBITS: Photographs and literature of equipment only.

REPRESENTATIVES: C. W. Reynolds, president; P. T. Brocklebank, vice president; J. E. Fogarty, sales manager; V. O. Marshall, engineer.

Century Electric Company

SAINT LOUIS, MISSOURI
Frick-Reid Bldg.

EXHIBIT: Motors, Generators.

NEW PRODUCTS:

Century Splash-Proof Motor—This high torque and high slip motor was designed to save wear on equipment and reduce field pumping costs. When the load is light on the pump stroke, the motor speeds up and stores useful energy in the flywheel action of its own armature and the pumping unit counterweight. The motor slows down against the maximum power peaks, cushioning the impact and using energy stored in armature and counterweight. This lessens the wear on belts, gears, chains, and other vital parts because of less destructive jolts. The high slip motor requires low starting current, causing smaller current variations and permits more motors of a given horsepower for the same line capacity. The splash-proof housing resists rain, snow and ice.

REPRESENTATIVES: Fred Powers, zone manager, St. Louis; V. G. Cox, district sales manager, Dallas; W. B. Hill, sales engineer, Houston; R. A. Jervis, sales engineer, Tulsa; Oliver S. Imes, advertising manager, St. Louis; G. A. Lyon, sales engineer, St. Louis, and T. E. Witt, district sales manager, Kansas City.

Walter O'Bannon Company

TULSA, OKLAHOMA
Booths 104-105 Texas Bldg.

EXHIBIT: Arrow rod and tubing pumps. Thrift pumps. DeLuxe pumps. Nu-Standard pumps. Baby Red pumps. Standing valve pullers. Oversize traveling and standing valves. Cup-Saver and Type L Discpak traveling valves. Acme On-and-Off devices. Magnetic shields. Balls and seats. Valve cups. Repacks. Sucker rod sockets. "S" links. Sucker rod hooks and elevators. Tubing hooks. Swivel rod line weights. Hinged bell nipples. Tubing tongs. Polished rod clamps. Automatic safety tubing spiders.

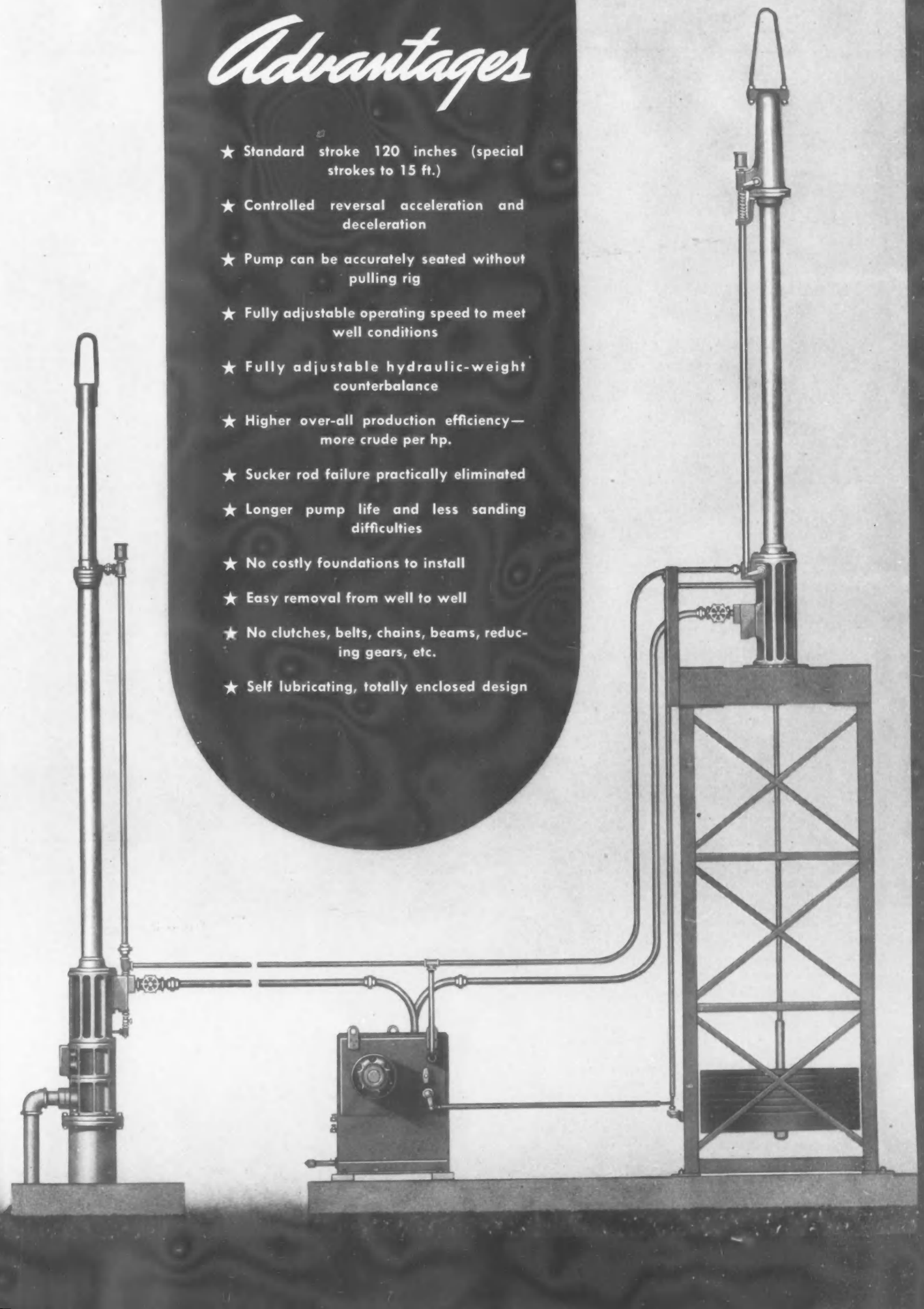
NEW PRODUCTS:

Displacement Pump—This new pump, a 1-inch displacement unit, was designed for small, difficult pumping wells, and for wells having small allowables. Its novel construction features make it an effective type where severe sand erosion is present.

Oversize Traveling Valve—This new valve is a companion to the oversize standing valve, introduced two years ago. This valve parallels the construction of the O'Bannon Cup-Saver traveling valve, having as a shield a protective, close-fitting metal bushing above the cups. It differs in that the area of the fluid opening through the valve is 50 per cent greater, affording increased fluid capacity. Also, the next larger size ball and seat is used: the 2½-inch valve is equipped with a 2¾-inch API ball and seat, instead of a 2¼-inch API ball and seat; while the

Advantages

- ★ Standard stroke 120 inches (special strokes to 15 ft.)
- ★ Controlled reversal acceleration and deceleration
- ★ Pump can be accurately seated without pulling rig
- ★ Fully adjustable operating speed to meet well conditions
- ★ Fully adjustable hydraulic-weight counterbalance
- ★ Higher over-all production efficiency—more crude per hp.
- ★ Sucker rod failure practically eliminated
- ★ Longer pump life and less sanding difficulties
- ★ No costly foundations to install
- ★ Easy removal from well to well
- ★ No clutches, belts, chains, beams, reducing gears, etc.
- ★ Self lubricating, totally enclosed design



3-inch valve has a 3¼-inch ball and seat, instead of a 2¾-inch ball and seat. The new valve will be available only for 2½-inch and 3-inch tubing.

O'Bannon Snap-On Tubing Tong—This new tong features lightness, increased strength, and ease and speed in handling. It will be shown in conjunction with the improved O'Bannon automatic safety tubing spider.

REPRESENTATIVES: Walter O'Bannon, president; Walter O'Bannon, Jr., vice president; Blake Caldwell, engineer; O. L. Walker, E. B. Beard, Ralph L. Bolte, L. H. Bowen, Nick Carter, W. H. Davis, E. W. Franklin, R. L. Hodshire, F. H. Krug, H. D. Smith and A. O. Thrasher, salesmen.

Whitlock Cordage Company

NEW YORK, NEW YORK
Frick-Reid Bldg.

EXHIBIT: Oil well cordage. Drilling cables. Cat lines. Plain laid rope. Derrick lines. Bull ropes.

NEW PRODUCTS:

Waterflex Treatment—Marked improvements in this treatment have been announced, and demonstrations prove its decided advantage as a lubricant, preservative and water-resisting preparation for manila rope. As the result of recent refinements, the manufacturer claims that "Waterflex" rope is even more water-resistant and retains better than ever its flexibility and ease of handling when exposed to the elements or continually submerged.

REPRESENTATIVE: E. W. Brown.

Thornhill-Craver Company

HOUSTON, TEXAS
Booths 221-222 Oklahoma Bldg.

EXHIBITS: Unibolt couplings, including high-pressure steel, medium pressure malleable, and "Big Inch" for pump suctions. Unibolt Christmas tree fittings, including high-pressure steel tees and crosses and medium pressure malleable tees. Unibolt adjustable and positive chokes. Unibolt ball joints. A high pressure Christmas tree with all Unibolt connections, including Unibolt-equipped valves.

NEW PRODUCTS:

Unibolt Couplings — New Unibolt couplings on exhibit include high pressure steel couplings for butt and socket welding.

Unibolt Malleable Tee—This new tee has a blanking plug for all types of medium pressure service.

Unibolt "Flexi-Ball" Joint is threaded male by female for rotary hose connections.

Unibolt Christmas Tree—A high pressure Christmas tree with all Unibolt connections, including Unibolt-equipped valves is a feature of the exhibit.

REPRESENTATIVES: Charlie Thornhill, Homer Thornhill, Kenneth Craver, M. P. Laurent, J. E. Loeffler, T. W. Walker, and R. S. Warren.

Beaumont Iron Works Company

BEAUMONT, TEXAS
Frick-Reid Building

EXHIBIT: Casing nest assemblies with flanges for Series 400, Series 600, and Series 900. Casing nest assembly with Series 600 flanges, with tree assembled. Casing nest assemblies with Series 900 flanges with tree assembled. HX-30-05 tubing head, Series 600 flange HX-100 tubing head, Series 900 flange. PX-104, Series 400 flange, PX-23 slip type tubing head. PX-350 stripper type tubing head and PX-375, PX-286, PX-23SB, and PX-65 stripper type tubing heads. Stripper adapter PX-155 tubing support, PX-435 pumping head, PX-450 pumping head. East Texas special casing head. HRP-25 slip type casing head. Various sizes and types of screw end and flanged end Christmas tree fittings, 30-inch- 36-inch, and 48-inch tubing blocks. C-262 pedestal sheave. PM-60 pedestal sheave, NR-30 swivel sheave block. NR-50 coring sheave block with hanger.

REPRESENTATIVES: A. I. Brainard, E. J. Roach, E. F. Cooke, Jr., Robert W. Hill, T. L. Fuller, N. G. Nuttall.

Smith Meter Company

LOS ANGELES, CALIFORNIA
Booths 83-84 Scientific & Technical Bldg.

EXHIBIT: Complete line of Smith positive displacement meters for pipe lines, refineries, oil wells, tank trucks, bulk plants, marine terminals, butane tank trucks, butane dispensing, butance and propane pipe lines and barrel filling.

NEW PRODUCTS:

Smith Pipe Line Meters—A new line of pipe line meters is being shown for the first time at the exposition. They range in capacity from 120 barrels per hour to 929 barrels hourly. These meters are built in five sizes and four working pressure ranges; namely, 125 pounds, 250 pounds, 500 pounds, and 1000 pounds, and are available on special orders for working pressures up to 5000 pounds. The new line incorporates many improvements which afford greater accuracy, longer life and simplified maintenance. The micrometer type calibrating adjustments is one of the notable features.

Smith 125-pound Pressure Pipe Line Meter

Smith Segregator is a patented device for separating water and gasoline. A working model of this new product is being shown at the exposition.

Smith Deaerator is an air elimination device for use on pipe lines and oil wells where the removal of entrained air or gas is essential to accurate metering.

REPRESENTATIVES: H. F. Detrick, president; Allan A. Floyd, sales manager; C. E. Valentine, Jr., western sales manager; Walter Brown, eastern field engineer; G. O. Tate, Tulsa district manager; and R. N. Ward, Houston district manager.

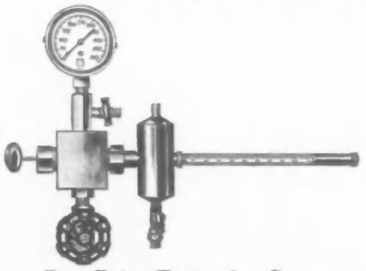
Refinery Supply Company

TULSA, OKLAHOMA
Booths 8-9 Scientific & Technical Bldg.

EXHIBIT: Laboratory apparatus. Chemical glasswear. Gas and oil testing instruments. Thermometers. Recording and controlling instruments.

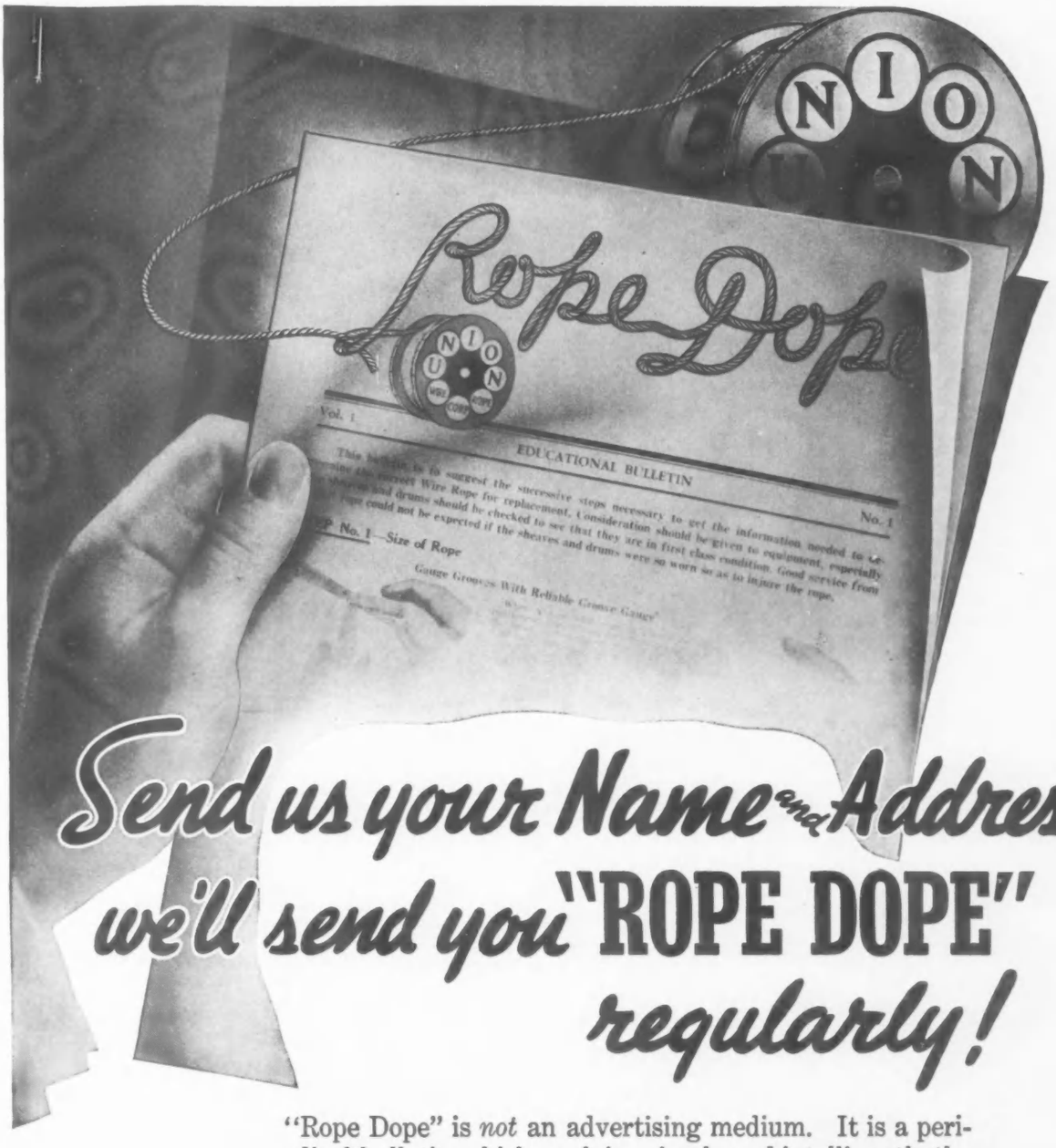
NEW PRODUCTS:

Dew Point Tester was designed primarily for gases under pressure, such as high pressure gas transmission lines where the dew point of the gas is an important factor. With this dew point test it is possible to determine the dew point of gases under the conditions of pressure as they are found to exist.



Dew Point Tester for Gases Under Pressure

Dew points can be accurately determined with safety at high pressure. The standard range of this apparatus is 0 to 500 pounds per square inch; however, the instrument is suitable to determine dew point of gases under pressures up to 2500 pounds per square inch, when a gauge of suitable range is installed on the instrument. The Dew Point Tester is simple to operate, and because of its sensitivity dew points can be determined with an accuracy of 0.2° F.



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"Rope Dope" is *not* an advertising medium. It is a periodical bulletin which explains simply and intelligently the highly technical phases of Wire Rope—its applications and uses . . . There's no obligation on your part—but a lot of valuable information in store for you.

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3

Heldie's Machine Works

TONKAWA, OKLAHOMA
Booth 43 California Bldg.

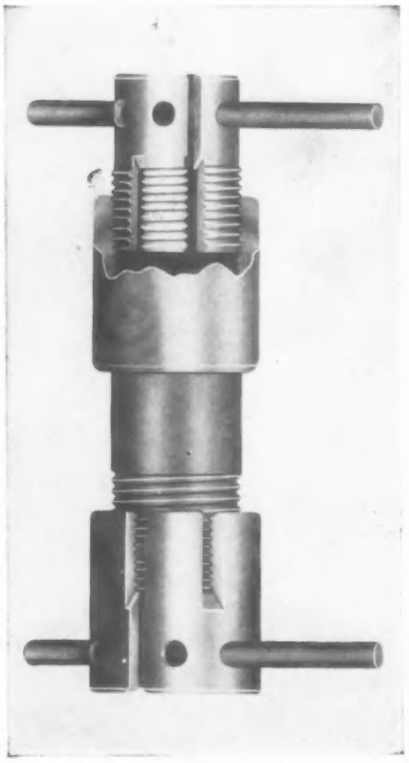
EXHIBIT: Automatic thread brushes. Thread Chaser.

NEW PRODUCTS:

Heldie's Automatic Thread Brush is designed in various sizes to clean 50 different sizes of pipe. Each set has a brush for the inside thread, and one for the outside thread. The brush is pushed onto the pipe, and then unscrewed to sweep the trash or dirt ahead and off. The body is of cast aluminum or meltable iron, as desired. The brushes are wooden, filled with high grade steel wire bristles. Flat spring steel attach the brushes to the body, and automatically press the bristles to the threads, even the deepest part. A long extended center part prevents pressure on the handle pulling one of the brushes away.

Heldie's Thread Chaser will clean gyp, rust and other hardened material from the threads of buting and other tubular goods. It is manufactured of high grade steel to conform to the specific thread that may be ordered. The thread chaser is so designed that its operation will trim up damaged threads, such as burrs on starting thread, and will not otherwise remove any metal. The material has been hardened in a unique way to prevent warping, and yet give a very long life to the hand tool.

Heldie's Automatic Thread Brush



Heldie's Thread Chaser and Gyp Cleaner.

REPRESENTATIVES: A. P. "Art" Heldenbrand; Everett Heldenbrand; Mack Chandler; and L. E. Walsh.

Schlumberger Well Surveying Corporation

HOUSTON, TEXAS
Booths 66-67-68 Scientific and Technical Bldg.

EXHIBITS: Electrical logging (automatic recorder, comprehensive illustrations of multi-electrode logs from oil producing areas of the United States and foreign countries). Three types of side wall samplers with new type bullets. Two types of precision gun perforators.

REPRESENTATIVES: E. G. Leonardon, vice president; P. Charrin, G. H. Murray, W. A. Clark, Jr., L. W. Storm, R. I. Seale, W. J. Gillingham, E. F. Stratton, R. G. Hamilton, W. B. Steward.

Landis Machine Company

WAYNESBORO, PENNSYLVANIA
Booths 6, 7, 8 Oklahoma Bldg.

EXHIBITS: Air controlled receding chaser pipe threading and cutting machine.

NEW PRODUCT:

Landis 13⅜ Receding Chaser Pipe Machine covers a wide diametrical range of sizes from 4½ inches to 12⅜ inches inclusive, and only two sets of chasers are required to cover this entire range as long as the pitch, thread form, and taper remain the same. This feature eliminates the necessity for frequent chaser changes. The taper of the machine is accurately controlled and produced through a sine bar which is adjustable and which gradually recedes the chasers as the head is propelled forward by means of a leadscrew. Set up changes can be made quickly and accurately. It is geared for high threading speeds and is a very simple machine to operate. A distinctive feature is the use of air operated chucks, which increases operating efficiency since handling time of the work to be threaded is reduced to a minimum. In addition to being used by the manufacturers of oil well tubular goods, this machine is also used by jobbers and users of casing, tubing, and drill pipe.

REPRESENTATIVES: G. M. Stickell, sales manager; J. R. Funk, Texas and Oklahoma representative; R. L. Moore, California representative.

Cleveland Trencher Company

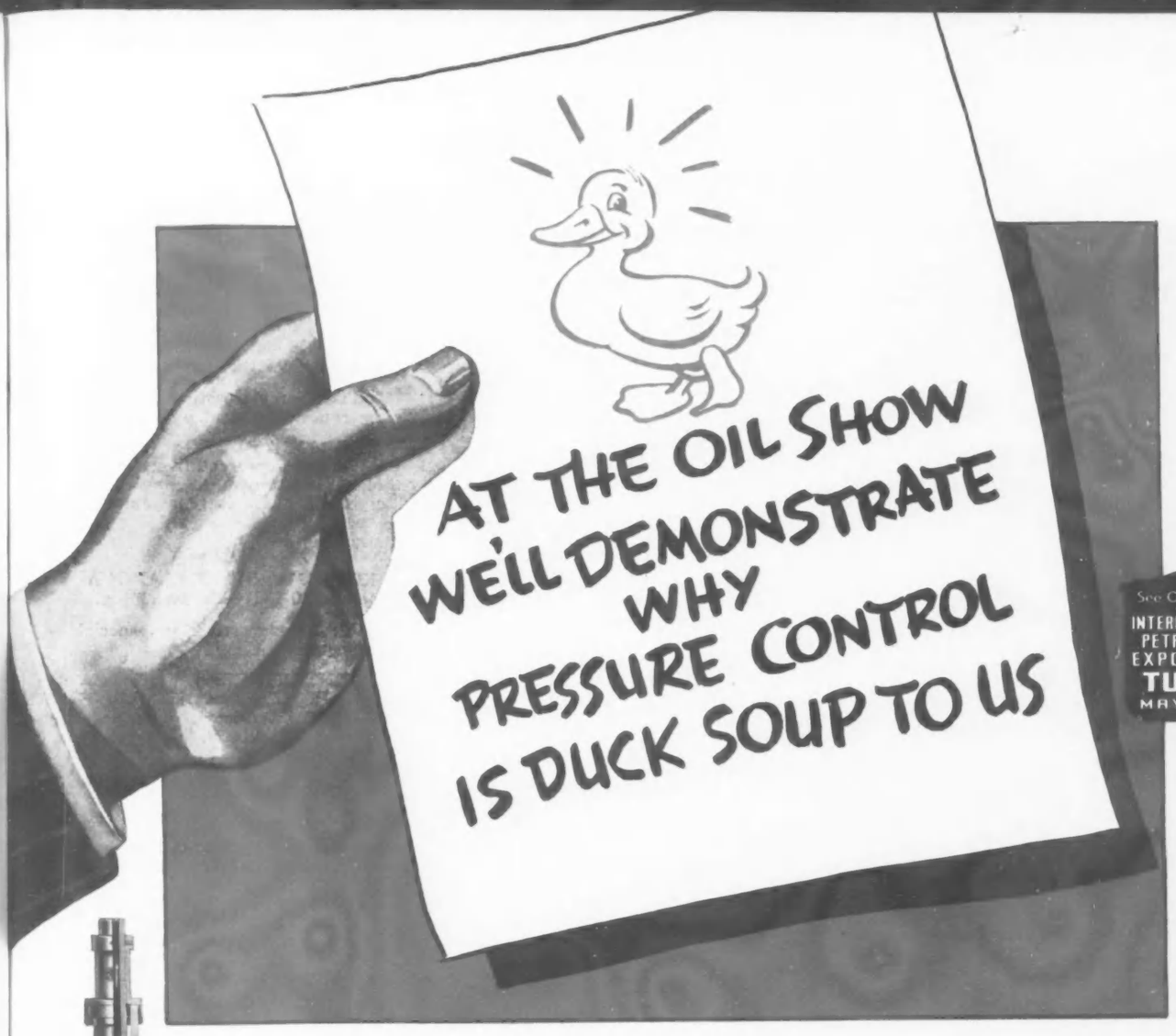
CLEVELAND, OHIO
Block P, Outside

EXHIBIT: Two new pieces of equipment on display are the Cleveland Model 140 pipe line ditcher and the Model 90 backfiller and pipe crane.

NEW PRODUCTS:

Cleveland Model 140 Pipe Line Ditcher has been designed especially for pipe line work and incorporates many new features, including wider crawler tracks which give it greater stability and better traction; wider digging widths, enabling it to dig trench 18 to 30 inches wide and up to 5½ feet deep; 300 percent stronger boom and frame; and higher ground clearance which is especially valuable when

Cleveland Model 140 Pipe Line Ditcher



See Our Exhibit
INTERNATIONAL
PETROLEUM
EXPOSITION
TULSA
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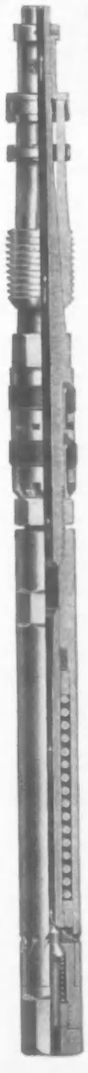


Control, combined with ingenuity, has been the secret of the successful business Otis Pressure Control, Inc., has built in triumphing over the complete range of pressures in producing wells. ● For high pressure wells there is the surface-controlled Otis Removable Bottom Hole Regulator, illustrated at the left, which safely reduces highest tubing flowing pressures and positively eliminates freezing of surface controls. ● For wells where gas pressure is insufficient to produce oil, Otis devised the Type G (Side Door) Otis Removable Bottom Hole Choke, illustrated at the right. It utilizes gas from a surface source or an upper horizon to flow the well at a controlled ratio. We would like to demonstrate both these tools for you at our display (Booths Nos. 224-225) in the Oklahoma Building.

OTHER OTIS *PRESSURE CONTROL* TOOLS ON DISPLAY:

Types B and E Removable Bottom Hole Chokes
Removable Tubing Safety Valve
Types C, E and G Closing Tools
Removable Drill Pipe Float Valve
Automatic and Wire Line Paraffin Scrapers
Complete Line of Running and Pulling Tools for Otis Equipment.

WRITE OR CALL TODAY for additional information about Otis tools if you are not planning to attend the Oil Show.

OTIS "Don't Kill Your Well" Call OTIS

OTIS PRESSURE CONTROL, INC.

DALLAS, TEXAS

Division Offices: **Houston, Texas; Oklahoma City, Oklahoma; Hobbs, New Mexico**
Export Office: **74 Trinity Place, New York, New York, U. S. A.**
Representatives: **Otis Eastern Service, Inc., Wellsville, New York**
Western Pressure Control, Inc., Los Angeles, California

working over rough right-of-way and traveling up and down grades. Flexible steering through the differential braking method is controlled by foot pedals. Pressure applied to either pedal turns the machine in that direction while pressure applied to both pedals simultaneously acts as a brake and stops the digger.

Cleveland Model 90 Backfiller and Pipe Crane can be used for backfilling on small or large diameter pipe lines. Among its outstanding features are its one man operation and its ability to travel continuously up or down the ditch at any one of a number of selective speeds. It has rapid backfilling speeds and two to three miles of trench can be filled in a day's time, even in rough country. The machine can be converted quickly and easily from backfiller to pipe crane. It is equipped with a telescopic boom of strong, latticed type construction which permits the handling of heavy loads. The boom is raised or lowered by means of a separate hoist. Boom length is adjustable from 13 to 20 feet. Model 90 maneuver and steering is accomplished by means of foot pedals working through brakes on the crawler differential, as described for the Cleveland Model 140 pipe line ditcher.

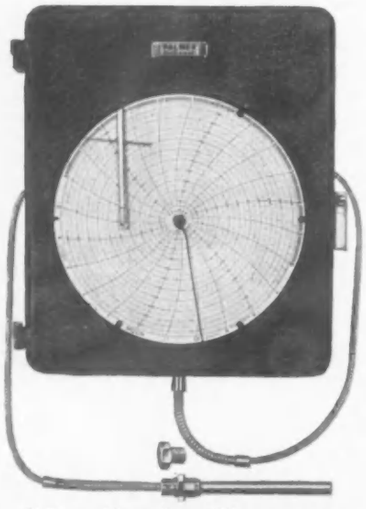
The Palmer Company

CINCINNATI, NORWOOD, OHIO
Booths 60-61 Scientific and Technical Bldg.

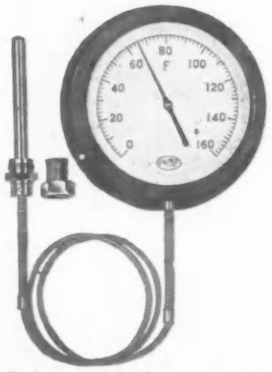
EXHIBITS: Red-reading-mercury industrial laboratory thermometers. Recording thermometer 12-inch case, mercury actuated. Dial thermometer 8-inch case, mercury actuated. Actual demonstration of making thermometer tubes.

NEW PRODUCTS:

Palmer Recording Thermometer is mercury-actuated. It has a 12-inch case with all parts non-rusting, built for



Palmer Recording Thermometer



Palmer Dial Thermometer

long wear. Stainless-steel easy-filling pen. Unique door catch. The instrument records very accurate temperatures and is extremely sensitive.

Palmer Dial Thermometer—In 8-inch case with easy-reading scale. Built strong and sturdy and has been made very sensitive and quick-reading. Each working part has been designed to operate freely and to give satisfactory service for many years. Can be seen at a great distance. Mercury actuated.

REPRESENTATIVES: Bartlett Palmer, sales manager; Carl Gast, St. Louis district man; Frank Esch, Houston district man; Ray Riddle and Roy Tighe, Tulsa Oklahoma, district men; Wm. Daley, factory representative who will demonstrate thermometer making.

Compressed Industrial Gases, Inc.

CHICAGO, ILLINOIS
Booths 96-97-98 Oklahoma Bldg.

EXHIBITS: Compressed industrial gases, oxygen, acetylene and hydrogen. Victor welding and cutting apparatus. Newly developed cutting machine. Hollup electrodes. Welding machines. Welding equipment and supplies.

REPRESENTATIVES: C. T. Price, F. M. Wyman, E. A. Randall, L. E. Lippincott, E. W. Hanna, A. C. Flack, Glenn Gammon, A. G. Coates, C. R. Galloway, T. O. Drinkwater, D. G. Dayton, D. E. LeCrone, J. D. Turner, J. V. Martin, A. R. Clayton, C. L. Logan, F. E. Moseley, R. G. Harrison.

The Lunkenheimer Company

CINCINNATI, OHIO
Booths 67-68 Oklahoma Bldg.

EXHIBITS: Bronze, iron, steel and corrosion resistant alloy valves, lubricating devices, cocks, etc. Sectioned models of many of the valves.

REPRESENTATIVES: Harry a Burdorf, sales manager. Sales representatives: Jos. Waldeck, Elmer R. Tieberman, D. R. Davis, Marshall N. Stickel, Jos. A. Birkhead, E. P. Lunken.

St. Louis Steel Casting Company

ST. LOUIS, MISSOURI
Booths 94-95 Oklahoma Bldg.

EXHIBITS: Sample castings. Pictures showing routine at plant.

REPRESENTATIVES: Wm. P. Brown, Tulsa representative; L. K. Bartholic, Houston representative; F. G. Langbein, St. Louis representative.

Line Scale Company

OKLAHOMA CITY, OKLAHOMA
Booths 130-131 Oklahoma Bldg.

EXHIBIT: Regular stock and special line scale equipment.

REPRESENTATIVES: J. C. Conrad, president; H. L. Conrad, secretary-treasurer; S. A. McAdams, L. L. Wagner and L. A. Blackburn.

American Roller Bearing Company

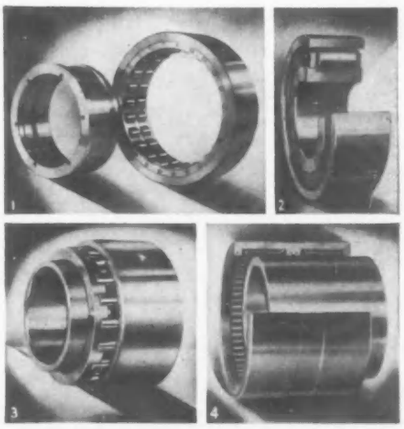
PITTSBURGH, PENNSYLVANIA
Booths 87-88 Oklahoma Bldg.

EXHIBIT: Recently developed special types of bearings. Full line of standard medium-duty, heavy-duty, and super-heavy bearings for oil field equipment.

NEW PRODUCTS:

Bearings: Newer products include radial bearings of the grooved inner and outer race types, special bearings of light-wall cross sections, larger radial-constructed sheaving bearings for crown and traveling blocks, and the original channeled outer race full roller bearing of both single and double-width design.

REPRESENTATIVES: F. P. Comb-president; Larry Succop and Carl L. Knaak, sales engineers; Edward D. Matby, Pacific Coast representative.



American Roller Bearing Company double roll radial bearing, single roll radial bearing, heavy-duty bearing and full-roller bearing.

ALWAYS IN THE

Right Spot

—IN OIL FIELD EQUIPMENT

See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY, 18-25

Wide in use . . . great in performance . . . Hyatt Roller Bearings have richly earned their spot in oil field equipment. Pumps, drawworks, blocks, and rotaries depend on Hyatts to carry the strain . . . to cushion the shocks . . . to keep them working! Running smoothly, easily, accurately, Hyatts transmit full power . . . avoid friction . . . prolong machine life! Not only in actual field equipment, but in all related branches, Hyatts work for oil—from the ground up! Use them in the equipment you build—look for them in equipment you buy. Hyatt Bearings Division, General Motors Sales Corporation, Harrison, New Jersey; Chicago, Pittsburgh, Detroit and San Francisco.

HYATT

ROLLER BEARINGS

QUIET

Byron Jackson Company

LOS ANGELES, CALIFORNIA
Booths 136-137 Oklahoma Bldg.

EXHIBIT: Friction grip casing elevator. New 50-ton triplex hook for short derricks. New light Type G center latch elevator for handling external upset drill pipe on portable rigs. New Type BB side door elevator for external upset drill pipe loads to 300 tons. Type P single-joint elevator. New light Type A center latch elevator for collar-type drill pipe and tubing. New "lightweight" rotary tong for slim hole drilling. Split type casing spider of 300 tons capacity. Shock absorbing kelly bushing. BJ Elliott rope guard. Improved line of BJ Elliott wire line core drills.

REPRESENTATIVES: Frank Champion, vice president; C. F. Vincent, Mid-Continent sales manager; R. B. Grainger, G. O. Jacobs, R. T. Todd, J. D. Hicks, B. A. Hillard, M. B. Moore, D. O. Pugh, E. W. Stuart.

NEW PRODUCTS:

Friction Grip Casing Elevator—A new elevator for handling surface strings or large diameter water strings where the load is not too great. While the body and door are similar in design to the standard BJ side-door elevators, a new latching device is employed. This consists of a built-in pinion roller which meshes over an eccentric rack cast into the door. This arrangement permits the elevator to grip the casing very firmly, and the grip is further tightened by means of a take-up screw which pulls the latch inward toward the pipe and locks the elevator. The bore can be wickered or knurled, if desired.

50 Ton Triplex Hook—This new hook is especially designed for use in short derricks, portable rigs, and for exploratory work where loads do not exceed 50 tons. The BJ "50" triplex hook has a large lower hook for the swivel bail and two upper, side hooks for the elevator links. A heavy locking arm on the lower hook, when closed, prevents the swivel bail from jumping out of the hook and also assumes part of the load. The two upper hooks also provided with safety locking arms, are an important feature. They eliminate the usual crowding of the elevator links and swivel bail on one hook, prevent the links from binding, and

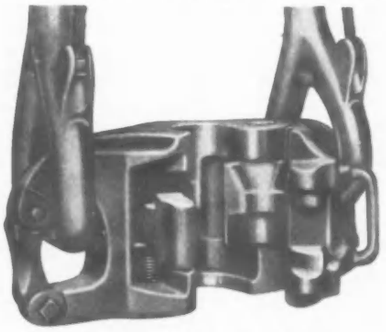
BJ Light Type G Elevator

BJ 50-Ton Triplex Hook

permit the elevators to hang vertically so that they can be opened and closed easily. The entire hook assembly is floated on two heat treated springs having a travel of 6 inches. These take the weight gradually, giving a soft, easy action when handling the drill pipe and saving wear on the rigging by absorbing sudden stresses. The spring assembly is entirely enclosed. Universal movement in a horizontal plane and vertical travel sufficient for all operating requirements is secured through a unique bearing. Rotation of the hook under load is prevented by a lock.

Light Type G Elevator—Handles external upset drill pipe in exploratory work where loads do not exceed 20 tons. The body is hinged in the center with a heavily constructed stirrup-type latch opposite the hinge. The latch fits over two large lugs, one on each half of the elevator body, to withstand the wedging action which arises from the 18 degree taper of the drill pipe upset, and eliminates strain on the latch lock. This arrangement also serves to keep the latch in place, preventing the elevator from becoming accidentally opened when tailing out or when jarring the drill pipe.

Type BB Side Door Elevator—A newly developed elevator of 300 ton capacity for handling external upset drill pipe. The side door acts as a strong connecting latch which prevents the body from spreading under the wedging of the drill pipe upset when extremely heavy loads are carried. The door opens wide enough so that the elevator can be swung into position around the pipe below the upset, and shut and locked. When the load is taken, the upset fits into the correctly tapered recess of the body where it



BJ Type BB Side Door Elevator

remains until the load is relieved and the elevator is dropped. The massive T-head latch which locks the side door has a positive horizontal action which is not affected by jar or shock. The elevator is safely and easily swung into position around the pipe by means of the rear handle which is integral with the body.

Type P Single Joint Elevator—This new elevator eliminates the use of a rope sling when "tailing in" external upset drill pipe, and prevents damage to the pipe or injury to the crew members from the pipe slipping or falling. The body is made in two halves, locked opposite the hinge by a stirrup type latch, and contains slips to fit the taper of the upset. A flexible wire line bail, with hand guards, keeps the elevator in a true balanced position. A free-spinning eye-and-swivel on the wire line bail provide a means of attaching the Type P Elevator to the hook or to the hoisting elevator. When a new joint is to be added to the string, the wire line bail is attached to the hook or hoisting elevator, and a crew member closes the Type P Elevator under the upset of the new joint. When the block and hook are raised the joint is tailed in and raised to the required height, where it hangs vertically over the box connection of the pipe standing in the rotary slips. The new joint can then be lowered easily and made up without danger of cross threading.

Light Type A Center Latch Elevator—Minimum width of body below the trunnions of this new elevator for collar-type drill pipe and tubing allows more room for the links, prevents them from binding, and allows the elevator to lift directly under the tool joint or collar without undue stress on the trunnions. The body is made in two halves of practically equal weight which imparts proper balance and insures easy opening and closing. A patented T-head spring latch which locks the body halves together fits into a recess where

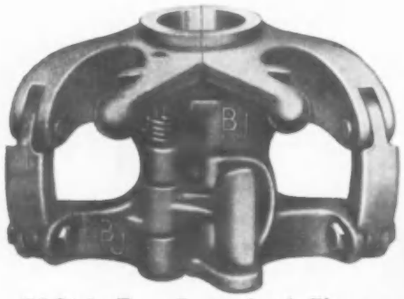
PROPER LOCATION OF THE MAIN SHEAVE WILL GIVE LONGER ROPE LIFE

The fleet angle, that is, the angle formed by lines drawn from the main sheave to both right and left rims of the hoisting drum should never be more than 3 degrees. If there is a greater angle needless side wear of the rope always occurs. This is true of both grooved and smooth drums. The condition when found may be corrected by increasing the distance between the main sheave and the drum. Diagrams, showing the proper location of the main sheave, will gladly be sent to you upon request.

WICKWIRE ROPE

WICKWIRE SPENCER STEEL COMPANY

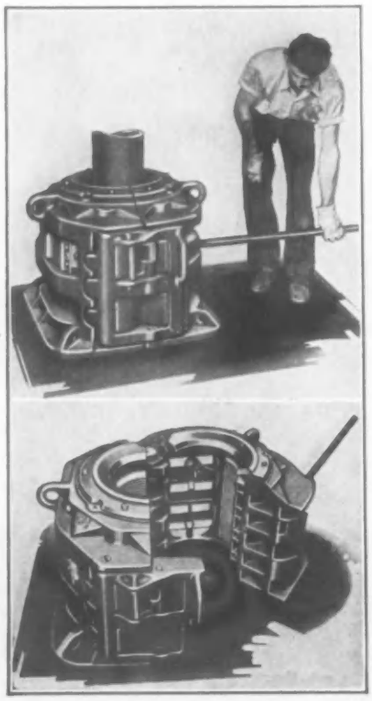
General Offices: 500 Fifth Avenue, New York City. Sales Offices and Warehouses: Worcester, New York, Chicago, Buffalo, San Francisco, Los Angeles, Tulsa, Chattanooga, Houston, Abilene, Texas, Seattle. Export Sales Department: New York City



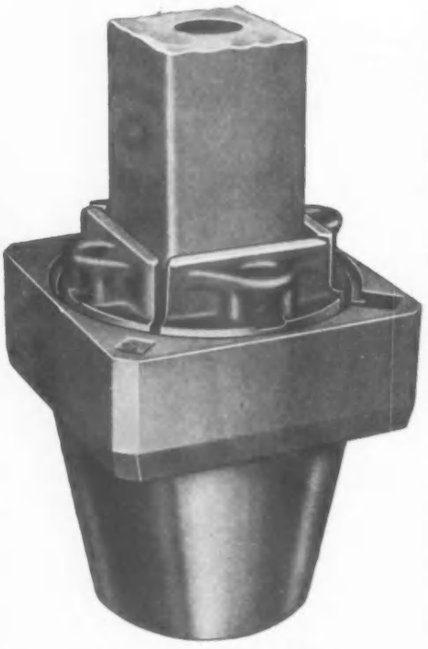
BJ Light Type Center Latch Elevator

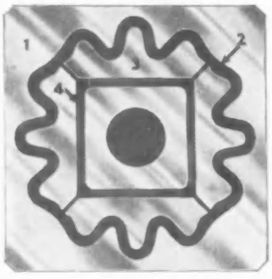
Operating handles have an underhanging knob and stop-guards to provide a safe, convenient grip. Light Type A Elevators are equipped with Byron Jackson Company's new curved link blocks which allow greater freedom of movement when the elevator is being opened and closed. The link blocks are permanently hinged at the trunnion at their tops and close downward, being securely bolted when retaining the elevator links in place.

"Light Weight" Rotary Tongs—Weighing only 136 pounds, these new tongs are especially suited for slim hole drilling and prospecting work. A patented double bore permits the tongs to grip on two diameters—drill pipe and tool joint—without crushing the pipe. The "Light Weight" Tongs embody all features found in heavier BJ Tongs, including the BJ Rollover principle which permits the same tongs to be used for both making up and breaking out. While made in both 2⅜ inch and 2⅞ inch sizes, the 2⅜ size can be readily converted for use with 2⅞-inch pipe also.



BJ Split Type Casing Spider

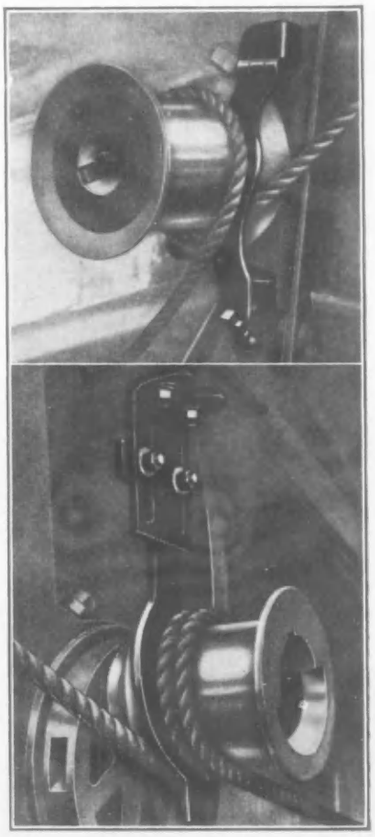




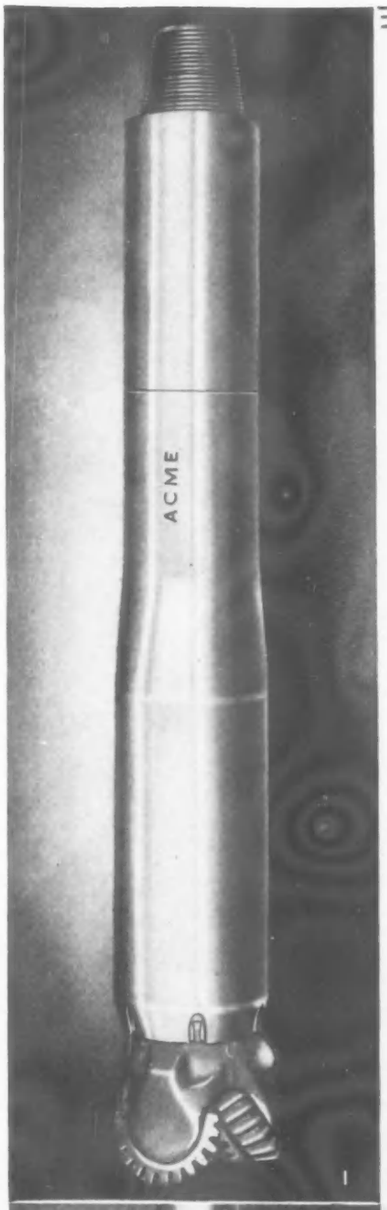
BJ Shock Absorbing Kelly Bushing. Lower view shows how it is driven through rubber cushion

Split Type Casing Spider—All sizes of casing from 5 inches to 13⅜ inches A.P.I. can be run with this spider through the use of interchangeable slips. The body is made in two halves which are hinged at the back and double locked by a heavy stirrup-type latch and latch lock when set over the hole. The casing is supported on four slips, each 18 inches long, which have flat backs to provide the same positive gripping action regardless of their vertical position in the spider body. They grip the pipe uniformly and securely with a minimum of vertical travel even when the pipe is undersize or oversize. Operation of the BJ Casing Spider is accomplished by moving a simple lever which opens all four of the slips simultaneously. When running casing, one of the crew holds the lever down so that the slips are retracted. A guide plate prevents the casing from dragging across the slips while running in. Releasing the lever causes the slips to set uniformly around the casing, thus automatically avoiding the danger of dropping the pipe in case of accident. However, the slips can be locked in the retracted position if desired. When the slips are set around the casing a lug on the end of the operating lever drops into a slot in the latch, making it impossible to open the spider body while the slips are supporting the casing.

Shock Absorbing Kelly Bushing—This new anti-friction kelly bushing employs a shock absorbing oil resistant rubber cushion between the bushing body and the liners which contact the kelly. The body is a one-piece steel casting having a corrugated bore into which is placed a similarly corrugated rubber cushion of special oil resistant composition. Four slips, with their backs corrugated and having liners of anti-friction material attached to their inner faces, are seated in the rubber cushion. Metal bearing surfaces at the top and bottom of the slips take the radial thrust. The anti-friction liners take all the wear as the kelly is rotated and moved up or down through the kelly bushing. When an old or battered kelly is used, the rough surfaces may scar the anti-friction liners, but the anti-friction and polishing qualities of the liner material soon smooths the kelly. The liners have proved to be surprisingly long-lasting and inexpensive in service, and, in addition, they are re-



BJ Elliott Rope Guard



Announcing

Acme's Mud Collar

The "Newest Thing Under the Sun" for Keeping Rotary Drillers Out of a Mess of Trouble.

"There's no such animal," **said the ruralite on seeing a giraffe for the first time. That same expression is now being applied to Acme's new, perfected, proven "MUD COLLAR." But when rotary drillers *know* what it is—and *will do*—they enthusiastically agree that, *"there is such a tool* and it's nothing short of a 'Modern-day Marvel.' "**

You MUST *see* Acme's MUD COLLAR to *know* what it is. You MUST understand how it operates to appreciate what it will do—the great savings it can effect in rotary drilling. Be sure to see it at the Oil Show.

Acme's MUD COLLAR is just what its name implies—a COLLAR, with rotary tool joint, used between the rotary bit and drill collar. It houses a fluid "cylinder," from which 6 streams are diverted to the outside of the bit, keeping it clean, and preventing mud rings from forming. Delays in pulling out are thus practically eliminated. By keeping the bit clean, power consumption is reduced, cutting is faster, easier and smoother—making better hole, with less strain on drill pipe. All hazards of drilling—including time and money wasting fishing jobs—are greatly reduced.

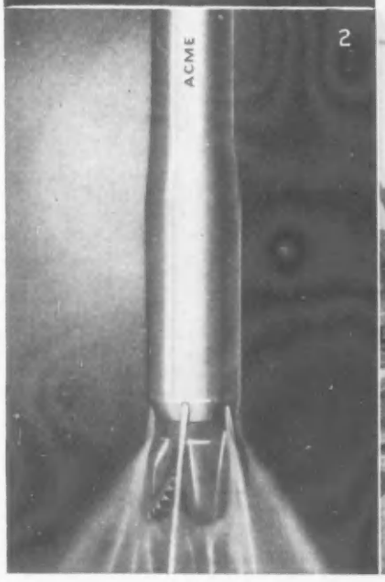
Shown . . . for First Time This Week, at TULSA— Outdoor Space on Texas Drive. Don't Miss It!

With this brief word-picture, surely you are all curious to know what this new WONDER TOOL is ALL ABOUT! See it—at the Oil Show.

Acme Fishing Tool Co.

Parkersburg . . . West Virginia

(Patents Applied For)



1. **Acme's MUD COLLAR—with bit assembled — ready to go into trouble-preventing, profit-protecting service.**
2. **Acme's MUD COLLAR "in action." 6 Fluid streams keep bit clean.**
3. **Acme's MUD COLLAR on the job — it has just come from hole "as clean as a whistle."**
4. **Mud rings, like this, are "going out of style" — with Acme's MUD COLLAR.**

Prominent User Says:

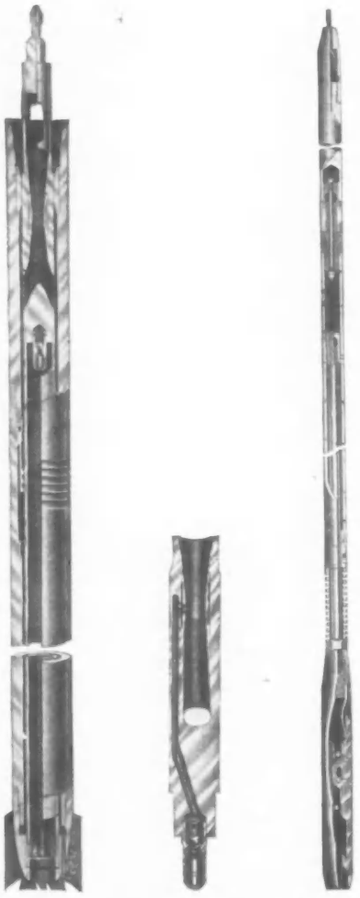
"We are highly pleased with Acme's MUD COLLAR. Ours has made about 14 wells to date, eliminating lost time and trouble from 'balled up' bits. It has been a great benefit on fishing jobs, as it prevents mud from channeling to one side of the bit. In fact, we have enjoyed so many benefits from its use, we now unhesitatingly recommend the MUD COLLAR to the entire Oil Trade." (Signed) T. B. Hunter, Vice-Pres., Schoenfeld-Hunter-Kitch Drilling Co., Salem, Illinois.

versible, which prolongs their useful life. As driving torque and shock are absorbed by the heavy rubber cushion during rotation, wear and tear on the rotary is sharply reduced.

BJ Elliott Rope Guard—Designed to eliminate cat-head accidents arising from fouling or tangling of the rope, this simple device consists of a curved arm, suspended from above the cat-head, which separates the first and second wraps. A latching device on the bottom and a hinge at the top of the arm permit it to be swung outward for easy removal or replacement of the rope.

BJ Elliott Wire Line Core Drill—This equipment provides a means of alternately drilling and coring at small cost, and with minimum number of round trips. Its construction and operation are said to be such that even when the driller is inexperienced in the technique of wire line coring, he can take good cores successfully, and when drilling without the retractable core barrel in place, he can produce straight, full-gauge hole at a speed and cost that will compare favorably with the performance of any other type drilling bit.

The outer barrel or drill collar is made of heavy, high quality drill collar stock, wickered near the top for easy handling, and contains a packer ring and driver clutch. Bits for use on this drill collar include 2-Way, 3-Way, and 4-Way pilot type drag bits with hard-faced cutting and reaming edges, and hard-faced roller type rock bits. The retractable inner barrel, or core taking assembly, which is dropped down the drill pipe when coring is to be done, rests freely in the drill collar and is held in place by pump pressure only. As no hold down mechanism or latching device is employed, possibility of the inner barrel being frozen inside the drill collar by the settling of sand or cuttings is avoided. The core taking assembly is recovered readily after the core is taken by means of an overshot attached to a wire line and run down the drill pipe. Full length cores, 10 or 12 feet long, are attributed to the operation of a patented inner barrel valve. This valve enables the high velocity circulating fluid to exert a suction at the upper end of the core-taking barrel which bleeds mud from inside it and assists the easy entry of the core. This feature is especially important in taking uncontaminated samples of loose and unconsolidated formations. When the core-taking assembly is removed, the drilling assembly is dropped down the drill pipe and comes to rest on a shoulder in the bit. Pump pressure forces it downward, moving the slideably mounted latch plate into engagement with the driver clutch. The center bit is thus locked in place and is rotated positively with the drill string. When the pumps are stopped a strong coil spring instantly retracts and disengages the latch plate from the clutch so that no opportunity is afforded for cuttings to settle around and freeze the drilling assembly. This insures its easy removal.



BJ Elliott Wire Line Core Drill showing, from left to right: inner barrel assembly assembled for coring; details of inner barrel valve; and overshot assembly

Macklin Company

JACKSON, MICHIGAN
Booth 38 California Bldg.

EXHIBIT: Grinding wheels.

REPRESENTATIVES: T. J. McIntyre, R. S. Thomas, L. J. Garber.

York Ice Machinery Corporation

YORK, PENNSYLVANIA
Booths 81-82 Kansas Bldg.

EXHIBIT: Flakice "Cold Magic" machine. Yorkaire self-contained air conditioners. Absorption refrigeration systems.

NEW PRODUCTS:

Flakice "Cold Magic" Machine is presented to the public for the first time. It is a completely self-contained unit capable of producing up to 2000 pounds of Flakice Frosty Ribbons per day. Ice ribbons may be made as needed, within 60 seconds after starting machine. Ice is made on a slowly revolving cylinder, partially submerged in water to form curved ribbons of pure ice, broken and ready for use. All refrigerating equipment is contained within the unit, only water and electrical connections are necessary.

Yorkaire Air Conditioners are available in Models Nos. 255, 275, 350, 475, and 550 for use in small to medium-sized business places, and in Models Nos. 700, 1000 and 1500 for use in medium to large-sized establishments where the conditioner is concealed in the basement or ante-room and air is distributed by means of duct-work.

The latest addition is Model 225, which stands slightly over five feet tall. It is a compact, low-cost, self-contained air conditioner for small business places and offices.

Absorption Refrigeration Systems—New equipment has been developed that eliminates many disadvantages of older models. Specifications show that on the basis of a 350-ton system, using 32° F. suction temperature, 86° water and 6 pounds per square inch steam pressure, the new type requires but 420 square feet compared with 1780 feet for the old type, and that the net cubic space required is 10,700 cubic feet against the former 22,760 feet. Total weight has been reduced from 41,800 pounds to 12,400 pounds. Other specifications have been reduced in proportion.

The new system can be made completely automatic in operation. A reduction in aqua charge makes the system more sensitive to load changes, and by proper application of controls, the plant can be made to handle all increments of load from a small fraction of capacity up to full capacity with little loss of efficiency. The absorption machine can be used to produce any temperature that can be obtained with ammonia. New absorption machines can be installed in single units of large capacity.

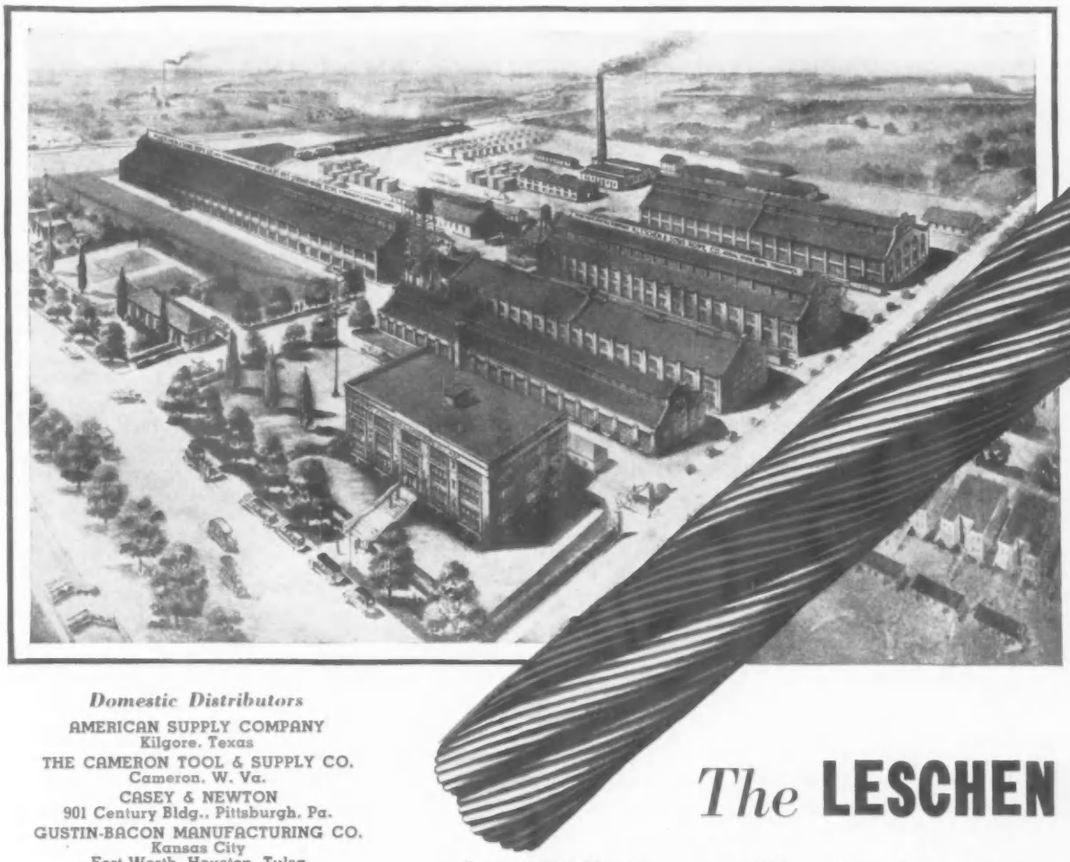
REPRESENTATIVES: W. R. McGinnis, refinery refrigeration specialist; R. E. Miller, manager, industrial refrigeration division; J. L. Rosenmiller, manager sales promotion division; W. L. Hutton, western regional manager; Walter E. Becker, southern regional manager; E. F. Edwards, manager St. Louis branch; A. C. Edwards, manager Houston branch.

Petroleum Electric Power Association

Booths 116-117 Oklahoma Bldg.

EXHIBITS: Facts concerning the many advantages of utility electric power.

REPRESENTATIVES: Representatives of utility power companies throughout Mid-Continent area.



Back of every Leschen Wire Rope is this plant, and back of the plant are 83 years of manufacturing experience . . . 83 years of staying "up-to-date."

The LESCHEN PLANT

Its Efficiency Works for Your Economy

Leschen Wire Rope is made in a large and up-to-date plant where modern equipment . . . proved principles . . . and experienced workmen are of equally major importance.

This is another link in the "Law of Leschen Quality" . . . another reason why "HERCULES" *(Red-Strand)* Wire Rope will perform more efficiently and economically for you. The added quality that we build into it is paid for by the savings that are made through advanced manufacturing methods and facilities.

You can discover for yourself the low operating cost of "HERCULES" *(Red-Strand)* Wire Rope by specifying it on your next purchase order.

"HERCULES" Rotary Lines are available in both Round Strand and Flattened Strand construction — either Standard or Preformed.

Domestic Distributors

AMERICAN SUPPLY COMPANY
Kilgore, Texas

THE CAMERON TOOL & SUPPLY CO.
Cameron, W. Va.

CASEY & NEWTON
901 Century Bldg., Pittsburgh, Pa.

GUSTIN-BACON MANUFACTURING CO.
Kansas City
Fort Worth, Houston, Tulsa

F. HAMILTON CO.
Bradford, Pennsylvania

HERCULES SUPPLY COMPANY
Ft. Worth, Corpus Christi, Kilgore, Houston

HILLMAN KELLEY, INC.
2441 Hunter St., Los Angeles, Calif.

KIMBELL-BOSTIC SUPPLY CO., INC.
Wichita Falls, Texas

THE B. LEVY ESTATE
Titusville, Pennsylvania

MURRAY-BROOKS HARDWARE CO., LTD.
Houma, New Iberia, Villa Platte
Lake Charles, Louisiana

NORTH TEXAS HARDWARE CO., INC.
Vernon, Texas

PARKERSBURG SUPPLY COMPANY
Parkersburg, W. Virginia

UNION PIPE AND SUPPLY CO., INC.
Owensboro, Kentucky

UNITED PIPE AND SUPPLY CORP.
Charleston, W. Va.

UNITED SUPPLY & MFG. CO.
Tulsa, Oklahoma City, Stonewall
Houston, Odessa, Pampa, Denver City
Chase, Kans., Hutchinson, Kans.
Eunice, N. M.

WELL MACHINERY & SUPPLY CO., INC.
Fort Worth, Texas

WESTERN MACHINERY COMPANY
Salem, Ill.

Export Distributor

CONTINENTAL EMSCO COMPANY, INC.
30 Rockefeller Plaza, New York, N. Y.
Branches: Buenos Aires, London, Ploesti

MADE ONLY BY

A. LESCHEN & SONS ROPE CO.

WIRE ROPE MAKERS — ESTABLISHED 1857

5909 KENNERLY AVENUE — ST. LOUIS, MISSOURI, U. S. A.

NEW YORK . . . 90 West Street
CHICAGO . . 810 W. Washington Blvd.
DENVER . . . 1554 Wazee Street

SAN FRANCISCO . . 520 Fourth Street
PORTLAND . . 914 N. W. 14th Avenue
SEATTLE . . . 3410 First Avenue South

H. C. Price Company

BARTLESVILLE, OKLAHOMA
Booths 205-246 Oklahoma Bldg.

EXHIBIT: Large maps of the United States and Venezuela, upon which will be traced all the oil and gas lines that have been electric welded by the company. Enlarged pictures showing the electric welding of pipe lines and oil well casings.

REPRESENTATIVES: H. C. Price, G. W. Fowler, A. T. Beaman, S. H. Paxon and J. M. Thomas.

Johns-Manville

NEW YORK, NEW YORK
Booths 44-45-46-47
Oklahoma Bldg.

EXHIBITS: Asbestos pipe line felts. Transite asbestos-cement pipe for salt water disposal. Building materials for oil field use. Marinite sheet material. Heat insulations. Packing and friction materials for oil field equipment.

NEW PRODUCTS:

Marinite—A sheet material for fireproofing structural steel.

REPRESENTATIVES: J. S. Carroll, vice president; T. C. Greenwood, St. Louis office; F. W. Hodson, Houston office; E. J. Liggett, Tulsa office; J. W. Orr, Tulsa office.

The Lufkin Rule Company

SAGINAW, MICHIGAN
Booths 121-122 Texas Bldg.

EXHIBITS: Complete line of tank gaging tapes, derrick tapes, tank straping tapes, steel and woven tapes for all general measuring purposes, folding wood or spring joint rules, plumb bobs for tank gaging, micrometers, calipers. Gages, squares and related items coming under the head of machinists or precision tools.

NEW PRODUCTS:

Chrome Face Steel Measuring Tapes—Accurate steel tapes, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare, Hence, the permanent markings stand out in sharp contrast, showing up well even in poor or artificial light. Furthermore, being built up by chrome plating these tapes are extra strong and resist rust. The surface is hard, smooth, and easy to clean, and the tape, being of metal throughout, will not crack, chip or peel. New cases and frames of improved design and appearance have been built for this new line. On its dull chrome-white surface the oil line is easy to locate and measurement is easy to read. A full line of chrome face gaging tapes is now offered. Such tapes are offered graduated either in feet, inches and 8ths, 10ths, and 100ths and with lines in both 3/8 and ½ inch width. The ½ inch is especially suitable for general measuring in the oil industry because its

Lufkin Chrome Face Steel Tape

greater width gives it extra durability and it accomodates larger figures.

REPRESENTATIVES: E. H. Meibeyer, R. M. Benjamin, Harry Wilson, Fred Hollingworth.

Peerless Manufacturing Company

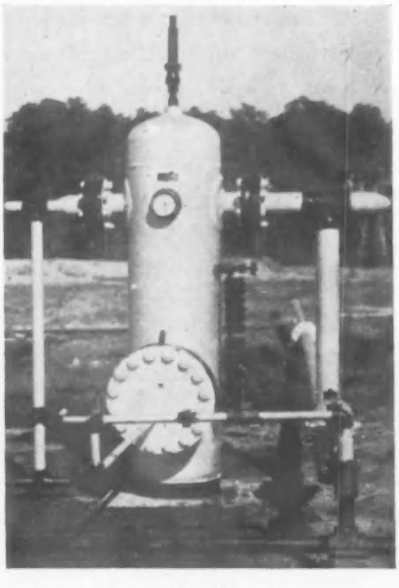
DALLAS, TEXAS
Booth 124 Kansas Bldg.

EXHIBITS: Gas distillate separators. Line Separators. Mist extractors. Steam separators. Odorizers.

NEW PRODUCTS:

Peerless Gas Distillate Separator—This is a 1,000-pound working pressure gas distillate separator featuring high efficiency Peerless mist extractor and Peerless weight operated intermittent oil valve.

REPRESENTATIVE: E. W. Smith.



Peerless Gas Distillate Separator

Dowell Incorporated

TULSA, OKLAHOMA
Dow Bldg.

EXHIBITS: Abrasive fluid perforator. Acid jet gun. Non-emulsifying acid—"XW" series. Industrial chemical service. Formation plugging. Jelly seal. Paraffin solvents. Dowmetal pipe. Auxiliary materials used in oil and gas well chemical services. Carbonate mud.

NEW PRODUCTS:

Non-Emulsifying Acids—"XW" Series—When acidizing first became an established practice, results of treating lime sections were so phenomenal "B.S." formed during and after a treatment was discarded as routine. Dowell has found a variety of additive chemicals called "W" for acid that were adaptable to different crude types, which makes pipe-line oil available immediately after treating and eliminates the former waste. Also, "W" shows other properties: (1) Treating pressures are often reduced far below those experienced when ordinary acid was used; (2) Many formations cannot be treated with straight acid solutions because the crude clings too closely to the rock for acid to break through. Non-emulsifying acid helps penetrate this film.

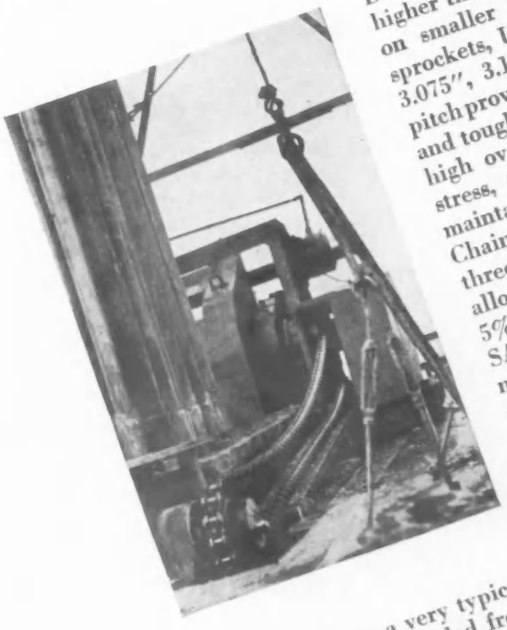
Formation Plugging Service—This "Liquid Rock" enters the formation as a clear liquid that flows almost as easily as water. After a pre-determined period has elapsed the material solidifies into an impermeable mass that seals the formation against extreme pressures. The fluids that are present in the horizon are kept in place; drilling or production can be resumed. Volumes of water as high as 2400 barrels per day; 8,000,000 cubic feet of gas per day; and pressures as high as 1500 pounds per square inch have been controlled.

Abrasive Fluid Perforating Gun—This gun perforates the casing by pumping abrasive fluids through jets. This new service is available to California operators only and overcomes peculiar conditions in wells of that area. The abrasive perforator undercuts the hole in the pipe; i. e., although the opening is no larger than usual, the cement and rock behind the perforation is removed. This leaves a protective pocket to collect production debris—thereby preventing clogged sections. The pipe is not damaged by the abrasive fluid jet because sudden shocks are eliminated. The high velocity cutting liquid bores quietly yet swiftly through steel and cement on into rock.

Jet Gun—For chemical treating of oil and gas wells, by acidizing pay zones. The Dowell jet gun shoots chemical solutions through small diameter nozzles, designed for high fluid velocities and stream-lined flow, either horizontally or vertically. The action of the jets is not altered when they are submerged in oil, water, acid or gas at differential pressures as high as 1000 pounds per square inch across the nozzles. The fluid will jet into deposits 15 or more inches from the nozzles. It is successfully used for: acidizing tight wells; removing cement

DOWN IN THE OIL COUNTRY DRILLERS LIKE 'EM

TOUGH...



Driving a rotary down in Texas, a very typical example of the severe service demanded from Union chains. The Union Chain & Mfg. Co., Sandusky, Ohio, emphasizes that each link and all parts of the chain must be formed and finished with painstaking accuracy. Each part is made from strong, tough Nickel alloy steels.

Designed to operate at higher than average speeds on smaller than ordinary sprockets, Union chains of 3.075", 3.125" and 4.063" pitch provide extra strength and toughness to withstand high overloads and shock stress, to resist wear and maintain accuracy. Union Chain & Mfg. Co. specifies three stout-hearted Nickel alloy steels: SAE 2515, a 5% Nickel steel for pins, SAE 3140, a Nickel-chromium steel for side bars and SAE 2315, a 3½% Nickel steel for bushings and rollers.

Break-downs and shut-downs are much more expensive than installing long-wearing Nickel steels and irons in the first place. Your inquiries regarding oil field applications of Nickel alloyed materials will be answered promptly.

NICKEL ALLOY STEELS

THE INTERNATIONAL NICKEL COMPANY, INC. 67 WALL STREET NEW YORK, N. Y.

sheaths; cleaning out well cavings; removing paraffin from the pay; washing away mud-sheaths; removing cement plugs; deepening wells bottomed in limestone; cleaning gyp from the face of pay, screens and liners.

Carbonate Mud Removal—This technique provides for removal of the carbonate mud sheath by chemicals before oil is permitted to enter the well bore. The completion of new wells with a mud containing an appreciable percentage of carbonate material permits the complete removal of this mud sheath with acid. This results in uninterrupted flow of oil into the well and gives greater initial production and potential.

Industrial Chemical Service for cleaning various industrial equipment. The usual procedure is to fill the unit to be treated with a special chemical solvent and establish circulation. Time is then allowed for the reaction to be completed. Next the unit is drained and flushed. It is then ready to be put back in service. Equipment cleaned with this new chemical method includes boilers, pumping engine jackets, feedwater heaters, all types of heat exchangers, super heaters, etc. in pipeline stations, power stations, central power houses, industrial plants and refineries.

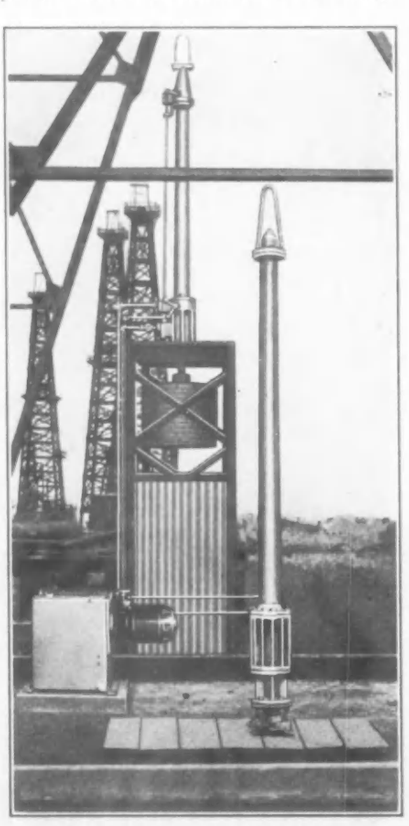
Dowmetal Pipe is used as a section in the oil string of casing, and placed opposite a pay section, cemented in place and later removed with acid. This permits the operator to cast off an upper horizon and insures a full hole cemented liner between the pays when the Dowmetal section is removed. Dowmetal pipe is also used in the oil string very close to the bottom of the well if the pay formation consists of sections alternately carrying water and oil. The water zones can be cemented off behind the steel section and the oil zones can be opened for production by removing the Dowmetal section with inhibited acid. This pipe can be welded or machined and can carry a load as high as 3390 feet of 7-inch 20-pound steel pipe.

REPRESENTATIVES: A. P. Beutel, president and treasurer, and N. R. Crawford, vice president and general manager, from Midland, Michigan. W. S. Day, district manager, Mount Pleasant, Michigan. L. C. Jones, station manager, Allegan, Michigan. J. A. Cummin, district manager, Wichita, Kansas. J. S. Sutherlin, station manager; D. M. Thomson, sales engineer; J. Sampson, treating engineer, from Great Bend, Kansas. D. M. Pomranky, station manager, Eureka, Kansas. R. E. Dublin, station manager, Hays, Kansas. J. M. Veazey, station manager, Newton, Kansas. D. M. Robertson, treating engineer, Hutchinson, Kansas. W. D. Miller, district manager; A. A. Townsend, sales engineer; L. C. Clarke, treating engineer; C. L. Mitchell, treating engineer; R. F. Copus, treating engineer, from Seminole, Oklahoma. E. S. Villines, station manager, Tulsa, Oklahoma. W. J. Russell, district manager, Midland, Texas. B. J. Cotey, station manager, Seagraves, Texas. T. E. Timmons, station manager, Hobbs, New Mexico. J. H. Finney, station manager, McCamey, Texas. R. L. White, district manager, Borger, Texas. J. H. Courtner, district manager; B. E. Langley, sales engineer; W. F. Brown, station manager, Salem, Illinois. J. C. McCormick, station manager; V. E. Lang, treating engineer, Flora, Illinois. C. E. Mangold, district manager; L. D. Brunson, sales engineer, from Shreveport, Louisiana. F. R. Holland, district manager, and N. D. Webb, station manager, from Graham, Texas. L. A. Courter, district manager, Owensboro, Kentucky. J. G. Staudt, assistant manager; W. E. Reardon, assistant manager; H. W. Ross, assistant sales manager; P. E. Fitzgerald, geologist; M. L. Stirling, G. F. Williams, J. H. Adkison, R. D. Loesby, and M. E. Brines, sales engineers; D. G. Hefley, assistant research director; J. B. Stone, chief chemist, all of Tulsa. F. I. McConnell, assistant sales manager, Fort Worth. K. L. Flanders, sales engineer, Shreveport, Louisiana.

Vickers Incorporated

DETROIT, MICHIGAN
Block 3, Outside

EXHIBITS: Vickers hydraulic pumping unit. Vickers variable speed hydraulic power transmission unit, manufactured in sizes ranging up to 200 horsepower for use in all manner of rotary variable speed drive applications where positive and rapid speed or torque changes are needed. Vickers pumps for high pressure oil service, used on applications ranging from truck body hoists to pipe bending machinery. Other hydromotive control products including relief valves, flow control valves and fluid motors.



Vickers Hydraulic Pump Unit

NEW PRODUCTS:

Vickers Hydraulic Pumping Unit provides pumping strokes of 10 feet and 15 feet, making it particularly adaptable to deep wells and wells having large amounts of fluid to lift. A 120-inch stroke unit of the hydraulic weight counterbalance type is capable of lifting up to 175 barrels per day from 5000 feet. The long stroke operation and smooth hydraulically controlled reversal increases rod life.

REPRESENTATIVES: Factory application engineers.

The Fiber Conduit Company

NEW YORK, NEW YORK
Booth 11 Oklahoma Building

EXHIBIT: Non-Metallic salt water pipe. Electrical underground conduit.

Orangeburg Alkacid Salt Water Pipe

NEW PRODUCTS:

Salt Water Pipe—This is a new non-metallic, low-pressure pipe to be installed underground, and was especially designed for handling brine. It is called "Orangeburg Alkacid" pipe, is unaffected by alkalies, salts or mild acids, and is immune to ground corrosion, electrolysis, etc. It has high coefficient of flow (William & Hazen C=150) and strength characteristics particularly favorable to underground installation. Hydrostatic pressure recommendation is limited to 15 pounds (30-foot head) covering ordinary gravity pressure flow. An unusual taper joint in provided and lengths of five and eight feet are easy to handle.

REPRESENTATIVES: F. P. Combier, W. W. Smythe, B. G. LeMieux and T. W. Conrad.

Lone Star Cement Corporation

NEW YORK, NEW YORK
Booths 73-74 Scientific & Technical Bldg.

EXHIBIT: Cement.

REPRESENTATIVES: Harry Williams, J. B. Roberts, Earl Marsh, Seth Greeley, George Hunter.

Harley Sales Company Wisconsin Motor Corporation

TULSA, OKLAHOMA
Block 3

EXHIBIT: Wisconsin Air Cooled Engines: Model AC-4S, cutaway; Model AH, with clutch; Model AE, with clutch; Model AK, with reduction; Model AB, standard; Model AP-4S, power unit. Machinery connected to engines; direct connected 15 KW. E. M. generator. Model 2-A Roper rotary pump. Gould reciprocating pump. Curtis air compressor mounted on tank. Two KW. lighting plant. National Transit rotary pump.

REPRESENTATIVES: Harry Todd, Harry Cronk, Phil Norton, Jr., Don Thom, Harley B. Neal, George E. Kluppel, Gerald Schmitt.

Scintilla Magneto Division of Bendix Aviation Corporation

SIDNEY, NEW YORK
Booths 9-10 Oklahoma Bldg.

EXHIBIT: Bendix-Scintilla low tension magnetos. Bendix-Scintilla fuel injection equipment.

NEW PRODUCTS:

Low Tension Magneto Systems—Bendix-Scintilla low tension ignition systems are not modified automotive magnetos, but are new equipment developed to meet the requirements of large stationary and industrial engines. The magneto generates low voltage alternating current and distributes it still at low voltage to individual transformer coils, one located adjacent to each spark plug. A short lead, often less than 12 inches, conducts the high tension current from the coil to the spark plug. This system permits low voltage current to be conducted long distances with very little loss of strength.

Fuel Injection Equipment—Bendix-Scintilla fuel injection pumps are made in single flange mounted units to be driven through tappets from the engine cam shaft. They are supplied for plunger diameters of 10 mm. to 18 mm., the stroke being 15 mm. in all cases. Nozzle holder assemblies are supplied in a variety of lengths ranging from 80 mm. to 250 mm. A unique feature is the use of individual spray tips, instead of having the spray orifices drilled directly into the nozzle body. This design gives extra protection to the closely fitted nozzle needle and its seat. A further feature is the ease with which tips can be replaced if a change in fuel requires different spray characteristics to obtain best engine performance.

REPRESENTATIVES: A. J. Poole, sales engineer; A. T. Bremser, Diesel equipment engineer; and J. H. Mayforth, sales engineer.

Bendix-Scintilla Low Tension Magneto Systems

The Yale & Towne Manufacturing Company

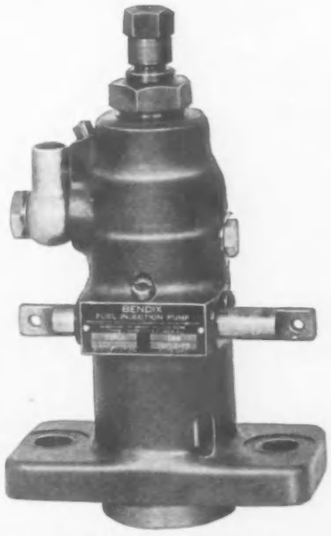
PHILADELPHIA, PENNSYLVANIA
Booths 17-18 California Bldg.

EXHIBIT: Electric industrial trucks. Hand lift trucks. Skid platforms. Chain hoists. Electric wire rope hoists. New variable speed electric wire rope hoist.

NEW PRODUCTS:

Variable Speed Electric Wire Rope Hoist—This new alternating current hoist provides five distinct speeds, is air-cooled with fins cast on the brake drum in the line of the air stream, has a one-piece hoist frame of ribbed steel casting, one-point oiling, 30-minute motor rating, sealed "lifetime lubrication" motor bearings, weatherproof motor, and other features.

REPRESENTATIVES: Ray Biang, R. E. Wilson, Fred Sintes, Howard Scofield and D. A. Cant.



Bendix-Scintilla Fuel Injection Pump

The Central Forging Company

CATAWISSA, PENNSYLVANIA
Booth 29 Oklahoma Bldg.

EXHIBITS: "Catawissa" forged steel unions, standard, double extra heavy and triple extra heavy weights. Single union and double union swing check valves and Catawissa union forged steel swing check valve.

NEW PRODUCTS:

Catawissa Forged Steel Acme Thread Union—Sizes from 1 inch to 4 inches inclusive in either the hexagonal or lug nut type. The threads in the nut are

Catawissa Forged Steel Acme Thread Union

full Acme and made coarse for quick opening and closing. The lugs on the lug nut type present a straight surface to receive the hammer blows. The nut may be tightened with a wrench or hammer, or both. The seat in this union has the same feature as the regular Catawissa union—a ball on the male end to a 55 degree angle on the female end and both carefully ground together by hand, which prevents possibility of scoring on the seat. The unions are tested under water with 100 pounds air pressure when only hand tight.

REPRESENTATIVES: H. Blain Lacy, Mid-Continent district manager; John A. Hill, Gulf Coast representative; and others.

Hyatt Bearing Division of General Motors Sales Corporation

HARRISON, NEW JERSEY
Booths 57-58 Texas Bldg.

EXHIBIT: Various types of Hyatt roller bearings used in draw works, pumping units, rotaries, blocks, pumps, engines, etc.

REPRESENTATIVES: C. L. Newby, division manager; F. H. Webster, sales engineer; J. L. Haynes, division engineer; J. M. Kelly, division manager; L. L. Hill, A. J. Swisler, sales engineer; H. K. Porter, general sales manager, and H. M. Carroll, advertising manager.

Reed Roller Bit Company

HOUSTON, TEXAS
Block 4 Outside

EXHIBIT: Rock bits. Tool joints. Core drills. Reamers. Drill collars. Valves. Welded-in blade drilling bits.

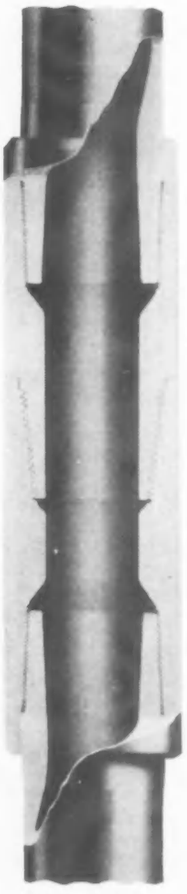
NEW PRODUCTS:

Reed Valves—The body, bonnet, packing, and stem are of conventional design, but the disc holder, which is integral with the stem, is cylindrical in form with a through conduit. The disc holder is positioned within the cylindrical bore of the body, but does not contact it because it is supported by bearings at top and bottom of the disc holder. The seating members are two opposed discs which float and are accurately guided in spaces in the disc holder. The valve is opened and closed by a single operation, a quarter turn of the valve stem. In its open position, it is a fully streamlined passage. When closed, the seating discs are moved to their seats by projecting shoulders on the disc holder. The leading edges of the moving discs wipe the cylindrical bore of the body while the valve is being either opened or closed.

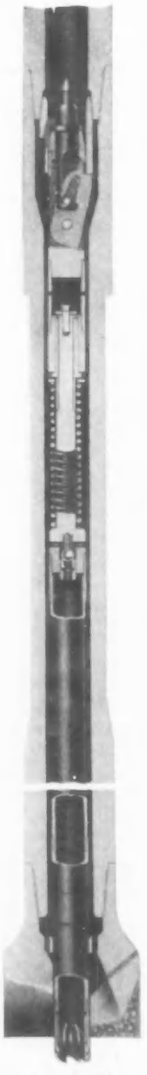
Reed Rock Bits have balanced cross roller design, which causes the cutter teeth to twist and tear the formation. This permits light drill weights and fast rotary speeds. The unitized construction (four point support on combination ball thrust and roller bearings) gives an added factor of safety, especially in the use of heavier weights for drilling harder formations. Improvements in slush tube design assure circulation on the cutter teeth and on the bottom of the hole. The teeth are hard faced with Reedite, a tungsten carbide preparation with a high hardness rating.

Reed Rock Bit

Reed Shrink-Grip Tool Joints are made from selected alloy steels, scientifically heat treated for proper hardness. The Shrink-Grip method is a patented exclusive process, in which an added support is shrunk onto the drill pipe that bridges over the point of stress concentration (the last engaged thread). The added area strengthens the joint and effects a seal against leakage. These joints are furnished in API regular, API full hole and internal flush joints.



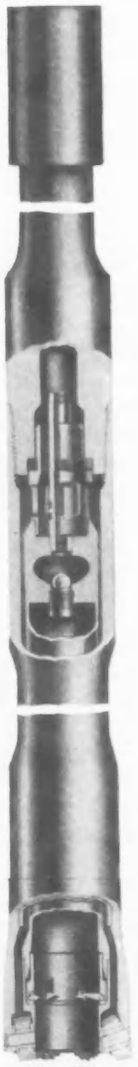
Reed Shrink Grip Tool Joint



Reed BR Wire Line Core Drill

Reed BR Wire Line Core Drill is designed for intermittent or continuous coring. Among its features are the positive locking and releasing device for both the core barrel and center bit assemblies; the patented spring loading mechanism; and replaceable core barrel cutter heads. A coil spring regulates the load on the core head so too much of the drill pipe cannot be put on the core barrel assembly. The spring permits retraction of the cutter head into the drill bit when the cutter head is first set on bottom, and allows the cutter head to core ahead of the drilling bit in soft formations. To protect the cutter head and core barrel material from excessive weight, ordinarily experienced in hard formation drilling, the spring allows retraction of the cutter head to a maximum of ¾ inch within a sharp drilling bit. The tool has a maximum opening through the drilling bit that allows the use of large surveying equipment, which can be run on the same wire line and overshot equipment as used for the BR core drill.

Reed Kor-King Core Drill features a non-rotating inner barrel, operating against oil proof, slush lubricated rubber bearings, and non-rotating type core catcher and protector. It is available in convention, inside vent, outside vent or drop ball type in the same barrel. The non-rotating inner barrel is made of one piece seamless steel tubing with a replaceable lower connection. This floating type inner barrel permits the core to enter without being broken apart or destroyed and is of material aid in the recovery of large cores. The



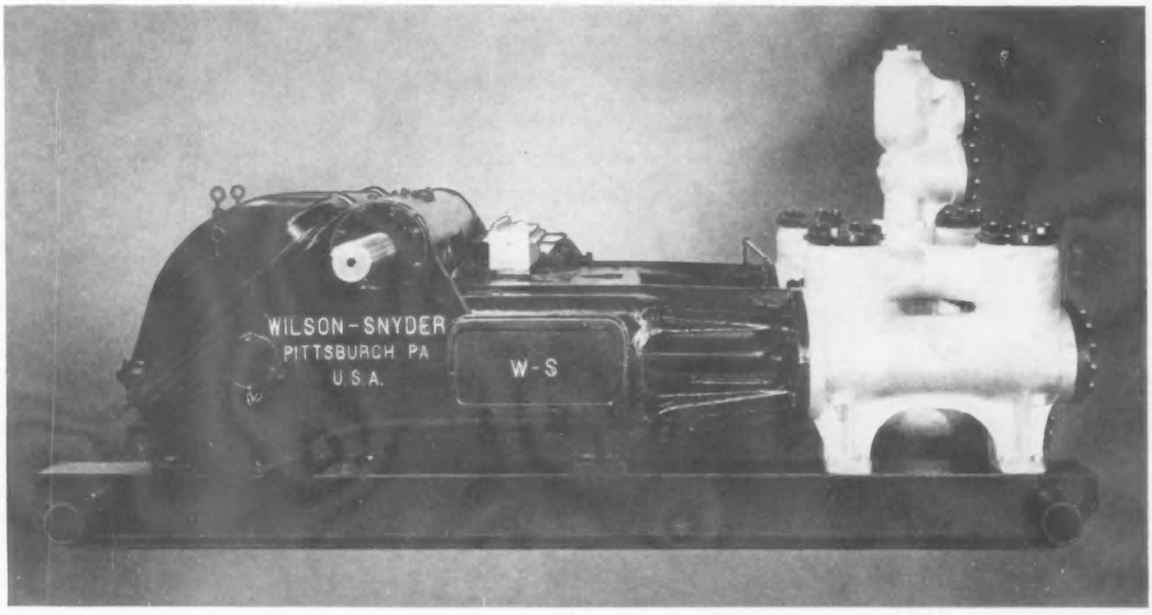
Kor-King Core Drill

Reed Drill Collar

a heavier, more powerful

WILSON-SNYDER SLUSH PUMP

The No. 18-P 7¼"x18" Power Pump



This latest addition to the Wilson-Snyder line of Power Pumps is built especially for heavy duty work in deep drilling.

The Pump is furnished with Di-Hard Fluid Cylinder Liners and Hi-Hard Fluid Piston rods as standard equipment.

Get complete details of this Wilson-Snyder No. 18-P Power Slush Pump from your nearest Wilson Supply Company Store or Sales Office.

Wilson-Snyder Pumps are sold exclusively on the Gulf Coast by

WILSON SUPPLY CO.

1412 MAURY ST. — **HOUSTON, TEXAS**

EXCLUSIVE GULF COAST DISTRIBUTORS FOR: Wilson-Snyder Pumps; American Cable Tru-Lay Pre-formed Wire Rope; Kewanee Boilers; Sievers Reamers; Drift Meter, Jr.; Gray Swivel; Nixon Surface Control Gas Lift; Nixon True-Taper Slip and Spider; Bowen Pack-Off and Releasing Drill Pipe Overshot; Douglas Weight Indicator.

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SALES OFFICES: Tulsa, Okla.; Dallas, Texas. LOS ANGELES, Phone W.L.A. 34040.

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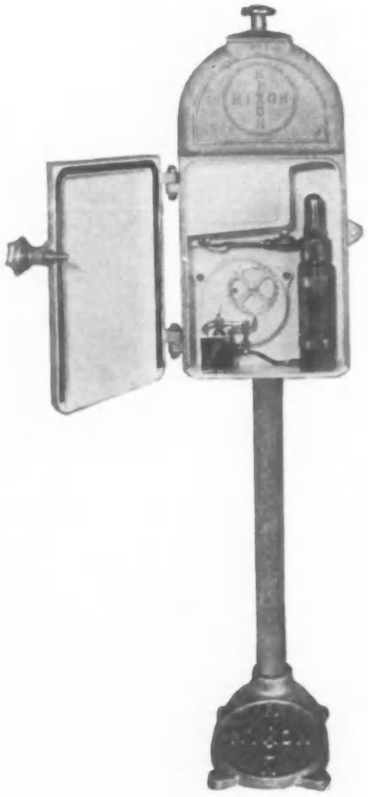
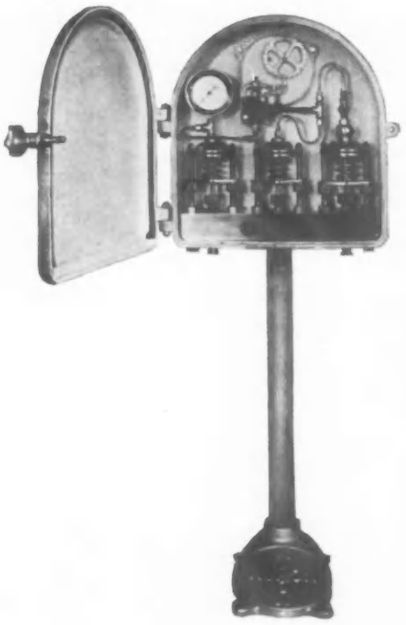


NIXON

Intermittent Chemical Injector

This Chemical Injector operates by low-pressure gas, with the rate of injection controlled by a clock-timed pilot valve. It allows more accurate proportioning of chemical needed over a period of a few hours or a full day. This is made possible by an adjustable pump plunger and a notched timing wheel which controls the volume and rate of injection. Its capacity is from a fraction of an ounce to several ounces per hour.

This injector can be used to meet all oil treating problems and it may be located to make direct injection into the flow line, separator or high pressure side of the flow bean.



NIXON

Type "C" 2-in-1 Intermitter

This is a new combination Fluid-Release and Time-Release Intermitter for controlling the opening and closing of a flow valve in the Nixon Surface Control Gas-Lift System.

When operating by fluid-release, the Intermitter holds gas-pressure in the weight cylinder until the fluid reaches surface. Fluid action on the Intermitter release valve, allows gas to bleed out of the weight cylinder, lowering the piston and weight bar, which closes the flow valve.

When operating as Time-Release, pressure remains in the weight cylinder, to hold open the flow valve only long enough to permit sufficient gas pressure to enter the tubing to bring the fluid to the surface. This timing of the flow valve closing is done by the Intermitter's clock timing wheel.

The change from fluid to time release or vice versa is done by opening one valve and closing another.

This new Type "C" Intermitter is further evidence of the efficiency and flexibility of the Nixon Surface Control Gas-Lift System.

WILSON SUPPLY CO.

1412 MAURY ST. — **HOUSTON, TEXAS**

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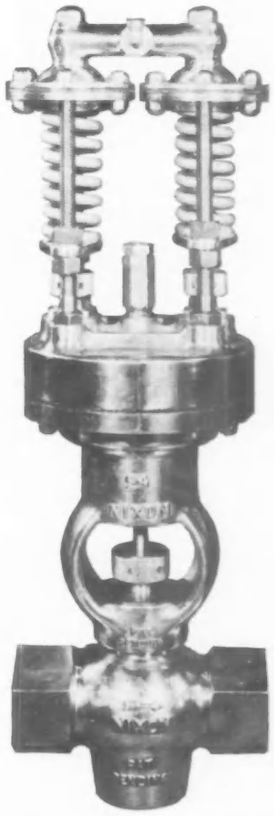
SALES OFFICES: Tulsa, Okla.; Dallas, Texas; LOS ANGELES, Phone W.L.A. 34040

. . More Economy

Manufactured for and Distributed by Wilson

WILSON SUPPLY CO.



NIXON

Selective Flow Differential Regulator

The Regulator main valve is pilot-controlled for snap action, which causes it to be either fully opened or completely closed, thus positively eliminating throttling and any cutting action due to abrasives passing through a partly opened or closed valve.

Actual reduction of pressure takes place outside of the regulator, through a positive funnel shaped choke located downstream from the Regulator.

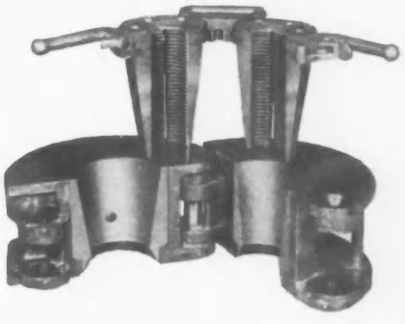
The Nixon Regulator has these outstanding advantages: Intermittent or constant flow: Replaceable stainless steel Valve and Valve seat: Double Step Diaphragm NOT exposed to full line pressure; Pressure regulation not affected by changes in atmospheric temperature; Adjustments or changes of pressure easily made; Each Regulator thoroughly shop tested.

NIXON *"Friendly"* TUBING SLIPS

These slips are designed with a slimmer heat treated segment that automatically centers pipe in the bowl. They are lighter, have double ratchet hinge, and perfectly balanced for easier handling. Wide handles and safety catch prevent injuries to the hands.

Because of this new design, worn slip segments can be replaced for approximately the same cost of a re-sharpening job. New heat treated segments will give over 50% more service than re-sharpened slips.

The bowl is a high-tensile "Promal" casting and equipped with a replaceable latch and hinge. It is designed with removable adapters so that one bowl will handle all sizes of pipe from 3" down to 1¼".



COFFEY *"Robot"* STACK DRAFT

Inside this specially designed 36" stack is a turbine-driven fan-type blower which produces a mechanically induced draft through the boiler.

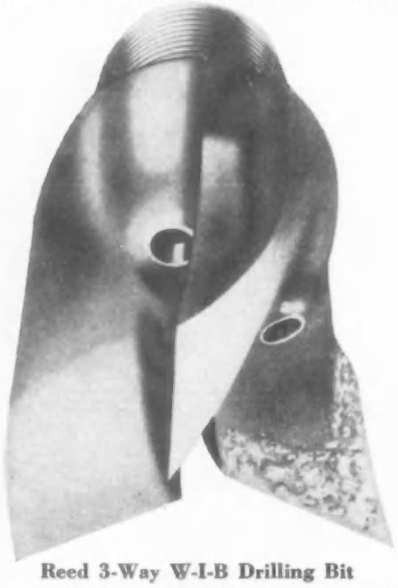
When firing with oil, the turbine is driven by steam. When firing with gas, fuel gas passes through the turbine before entering the firebox, thereby controlling the speed of the fan and keeping the induced draft in direct ratio to the intensity of the fire.

The Coffey Robot Stack Draft protects flues and flue sheet by eliminating the natural draft set up by tall stacks which cool the boiler too quickly when the fire is cut. It eliminates the pulsation in the fire box caused by the uneven draft steam jets. It eliminates the expense of transporting and erecting tall stacks. Tests demonstrate, it effects savings from 15% to 20% in fuel gas.

non-rotating core is said to prevent destruction of the core and of itself during rotation of the core drill. It is of unified construction, plated against rusting and smooth on the inner and outer surfaces. Core catchers are furnished in both the toggle and spring types. Soft and hard formation heads are interchangeable.

Reed Drill Collars are forged from selected alloy steels of the same quality and toughness as used in Reed tool joints. They are heat-treated over their full length in one operation after being forged and straightened under a 600-ton hydraulic press. Collars are manufactured in API design, regular or full hole, or to special specifications in lengths up to 40 feet.

Reed WIB Drilling Bit incorporates the use of drop forged steel blades that are welded into and made an integral



Reed 3-Way W-I-B Drilling Bit

part of a cast steel body. The bit head, or body, is cast from a selected alloy steel then heat treated. The body is machined with standard API or API full hole box or pin connection. The bit blades are drop forged from special chrome-molybdenum alloy steel, properly heat treated and dressed with tungsten carbide inserts to cover the cutting surfaces and protect the reaming edges.

REPRESENTATIVES: R. G. Hamaker, W. J. Nutto, H. B. Book, J. E. Hoffoss, Harper Black, Cy Johnson, J. C. Fortune, John Weaver, Vic Rupe and Edmund Burke.

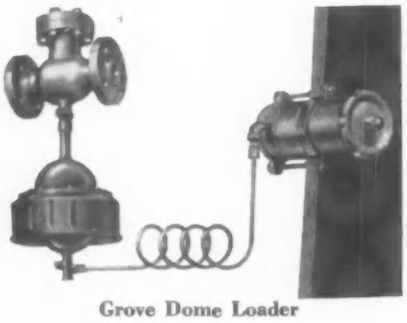
Grove Regulator Company

OAKLAND, CALIFORNIA
Booths 36-37 Texas Bldg.

EXHIBIT: New models of Grove high pressure reducing regulators in actual operation.

NEW PRODUCTS:

Grove Reducing Regulators and Valves—The new Grove Dome Loader



Grove Dome Loader

or Pilot Valve is one of the units featured. Other entirely new and advancements also shown for the first time. These include a new type pressure relief valve, fully fabricated regulators of the back pressure and pressure reducing types, and a new type diaphragm motor valve with new fabricated construction.

REPRESENTATIVES: M. H. Grove, D. H. Annin, V. B. Gresham, and M. T. Kapele.

Lee C. Moore & Company

PITTSBURGH, PA.
Booths 65-66 Oklahoma Bldg. and Block 8 Outside

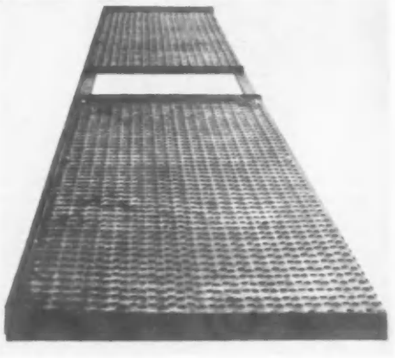
EXHIBIT: Pumping units. Non-skid grating. A 136-foot x 30-foot base derrick with accessories at National Supply Company exhibit. An 87-foot jack knife cantilever mast at both Bethlehem Supply Company and Continental Supply Company exhibit.

NEW PRODUCTS:

Model 16DT80 Pumping Unit is described as incorporating improved center iron and crank shaft bearings, self-locking brake, V-shaped counter balanced cranks and longer skids to accommodate extra-large engines. Regular features include twin pitmen and cranks, dust and oil-sealed anti-friction bearings throughout, combination swing-back or lift-off mulehead, and single-screw chain adjuster. The unit is rated 16.2 horsepower, 80,000-inch-pounds torque; 34x44x54-inch stroke; reduction 24.2:1; pumper structure capacity 12,700 pounds; working centers 6 feet; overall length 18 feet, 11 inches; height 12 feet; width 3 feet, 11 inches, and weight 12,500 pounds.

Moore 16DT80 Pumping Unit

Moore Non-Skid Grating, designed for derrick platforms, well cellars and walkways, is made by deforming flat plates and punching holes for treads and drainage. Deforming the plate is



Moore Non-Skid Grating

designed to increase its section and permit heavier loads over greater spans.

REPRESENTATIVES: C. R. Krause, president; E. S. Anderson, Oklahoma manager; W. H. Payne, Texas manager G. A. Holloway, Kansas manager; O. H. Dittmer, Oklahoma sales division; C. L. Henry, chief engineer; H. J. Woolslayer, assistant chief engineer, and Lloyd G. Ensign, manager of export sales.

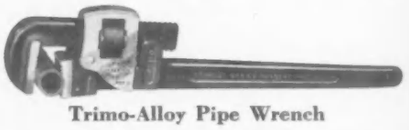
Trimont Manufacturing Company

ROXBURY (BOSTON), MASS.
Booth 115 Oklahoma Bldg.

EXHIBITS: "Trimo-alloy" pipe wrenches, pipe cutters, pipe vises, and other pipe tools.

NEW PRODUCTS:

"Trimo-Alloy" Pipe Wrench was the first pipe wrench placed on the market made entirely of drop forged chrome-molybdenum, manganese and nickel



Trimo-Alloy Pipe Wrench

steels. It has new diamond hard upper and lower jaw teeth, unbreakable handle and jaws, and a new super-steel frame.

REPRESENTATIVES: John H. North, Dallas, Texas; Clifford W. Borneman, Chicago, Illinois.

Allis-Chalmers Manufacturing Company

MILWAUKEE, WISCONSIN

Fred E. Cooper

TULSA, OKLAHOMA
Blocks A, B, D, and S, Outside

EXHIBIT: Tractors. Power units. Winch equipment. Motors. Texrope drives. Centrifugal pumps. Mud screens. Variety of electric power equipment.

Fred E. Cooper, who sells Allis-Chalmers tractor engine powered oil field equipment has the following units on display: Model E double-drum tractor with mast and spudding equipment. Model E single-drum tractor with seat controls. Model UM double-drum tractor with standard mast. Model UM standard single-drum tractor. Model UM single-drum tractor with cab and special wheel and tire equipment. Model W single-drum tractor. Model L double-drum skid with spudding equipment and rotary drive. Model EL double-drum skid. Model E 48-inch single-drum skid. Model UM 36-inch single-drum skid. Model W skid. Model L power unit. Model E power unit. Model U power unit. Model W power unit. Model B power unit. Model B power unit with centrifugal pump.

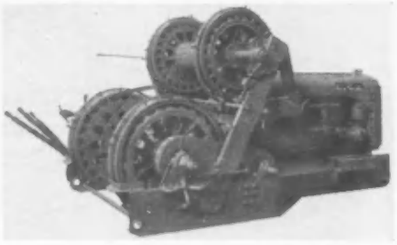
NEW PRODUCTS:

Allis-Chalmers Model W Skid Winch is designed to handle 3500 feet of 2-inch tubing and can be mounted on a small truck. Powered by an A-C slow-speed, heavy-duty 4-cylinder engine developing 128-foot-pounds torque, that burns

Allis-Chalmers Model W Skid Winch

natural gas or gasoline. Winch has eight line speeds from 46 to 539 feet per minute and is equipped with Cooper air-cooled brakes. Maximum line pull is rated at 20,666 pounds and capacity is 5660 feet of ½-inch line. It features ball bearing drum mountings.

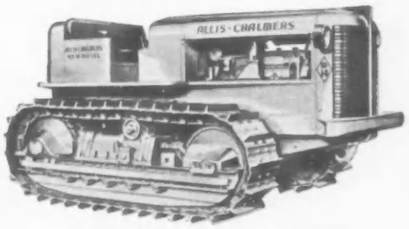
Allis-Chalmers Model E Double-Drum Skid Winch has a standard front drum of 48 inches between flanges with 34-inch Cooper air-cooled brakes and brake surface area of 1282 square inches. The drum has eight line speeds from 51 to 1074 feet per minute and a capacity of 6350 feet of ¾-inch line. The rear drum is 40 inches between flanges with 34-inch Cooper air-cooled brakes and a brake surface area of 1282 square inches. It has four line speeds from 132 to 560 feet per minute, and a capacity of 5444 feet of ¾-inch line. The winch has a heavy-duty tractor-type transmission with four speeds forward and one reverse. Power is a 4-cylinder Allis-Chalmers engine with 5¼-inch bore and 6½-inch stroke developing 375-foot-pounds torque. Equipment includes a 30-gallon fuel tank, built-in governor with variable speed control from foot accelerator and oper-



Allis-Chalmers Model E Double-Drum Skid Winch

ating range from 500 to 1200 r. p. m., oil filter, air cleaner, cooling system circulating 71 gallons of water per minute at governed operating speed of engine.

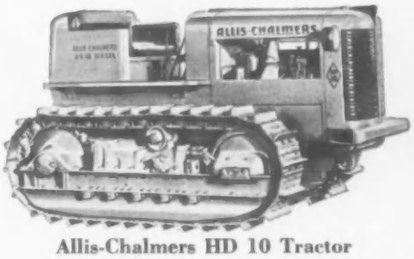
Two-Cycle Diesel-Powered Crawler Tractors, embracing three models, are fitted with velve-touch bi-metallic steering clutches and brakes, positive-seal truck wheels that require lubrication only once every 200 hours and a new track release spring mechanism designed to increase the service life of the tracks. Electric starting and lighting equipment, radiator shutters, hour meter and muffler and heavy-duty guard equipment are standard. Bull-



Allis-Chalmers HD 14 Tractor

dozers, scrapers, winches and other construction and oil-field tools are available for each of the three models.

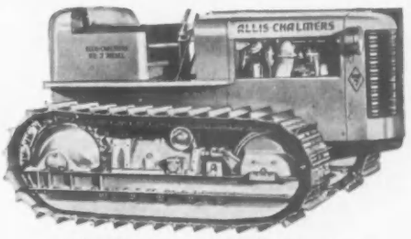
Largest of the three units is the HD 14, fitted with a 6-cylinder General Motors 2-cycle Diesel engine and rated at 108 horsepower on the drawbar and as delivering 130 horsepower on the belt. The 6-speed transmission ranges from 1.72 to 7 miles an hour. Two reverse speeds are 2 and 3.20 miles an hour. Tread width is 68 inches, and shipping weight is 27,900 pounds.



Allis-Chalmers HD 10 Tractor

Second unit is the HD 10, equipped with a 4-cylinder General Motors 2-cycle Diesel engine and rated 79 horsepower on the drawbar and 95 horsepower on the belt. The transmission has six speeds forward, from 1.69 to 6.03 miles per hour, and two reverse speeds, 1.86 and 4.17 miles per hour. Tread widths are 74 and 62 inches, and shipping weight 20,700 pounds.

Third unit of the series, Model HD 7, is equipped with a 3-cylinder General Motors 2-cycle Diesel engine rated 54 horsepower on the drawbar and 65 horsepower on the belt. Five transmission speeds range from 1.84 to 5.82 miles an hour, with a single reverse speed of 2.19 miles per hour. Tread



Allis-Chalmers HD 7 Tractor

widths are 63 and 52 inches, and shipping weight is 13,000 pounds.

Model W Speed Patrol is built around a mass-production wheel tractor and equipped with a tiltable 12-foot blade. Power is supplied by a 31-horsepower engine; the 4-speed transmission has a high travel speed of 10.5 miles an hour; electric lights, starter, generator and battery are standard equipment, and shipping weight is 5960 pounds. A 10-foot moldboard is mounted on a special centerless circle designed to keep the load at the center of gravity of the machine and enable it to move larger loads. The blade is controlled through two large hand wheels located close to the operator's seat, power being transmitted through a worm-and-gear arrangement to the crank arms and links. Gears are mounted on bearings which have a special wear take-up. The 120-inch wheel base is designed to permit the machine to turn short and work effi-

Allis-Chalmers W Speed Patrol

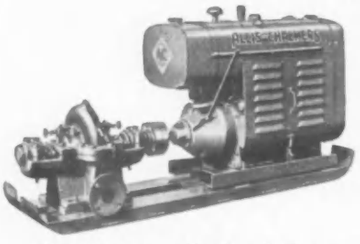
Allis-Chalmers Hough Hydraulic Shovel

ciently in close quarters. The regular drawbar equips it as a hauling machine.

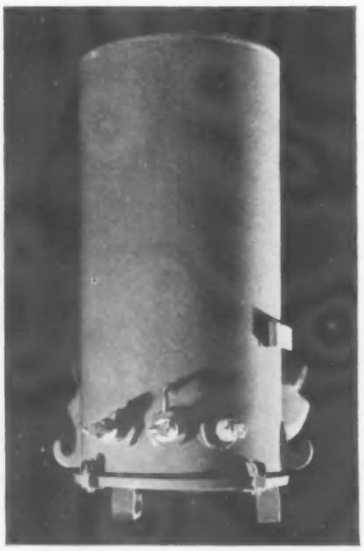
Hough Hydraulic Shovel has been reintroduced with improvements, including a redesigned bucket lift mechanism, a new-type piston and rod designed to reduce maintenance costs and increase working speeds, and an improved hydraulic pump for greater flexibility and more efficient use of engine power. The hydraulic tank and other accessories have been relocated for greater operating visibility. The shovel is mounted on an Allis-Chalmers 32-horsepower Special Long Track Model WM, is rated for excavating 40 cubic yards an hour and for loading from stock piles at 60 yards an hour. It is designed for excavation of slush pits and storage tank fire walls. A bulldozer and angle-dozer blade permit a complete job. The unit may be moved on a light truck or on a Hough transport buggy. Shipping weight is 10,770 pounds.

Allis-Chalmers Distribution Transformer embodies new features of design and construction. Cadmium plated 3-way terminals increase wiring flexibility over former two-way terminals by allowing leads to enter the terminal from any one of three directions. No special fittings are necessary because the heavy cadmium plating reduces corrosion and minimizes electrolytic action when used with either aluminum or copper conductors. Installation can be made with ordinary tools carried by a lineman, and due to the construction of the 3-way terminal the tightening tool always travels in an up and down direction, preventing any accidental short circuit across the secondary terminals. Tanks are of durable steel construction, tested under pressure to prevent oil leakage. Side walls extend below the bottom to give protection in handling and to prevent rusting. Tank surface is bonderized and then covered with three coats of baked-on paint. Double conductor insulation is used to give added di-electric strength and physical separation of turns.

Allis-Chalmers Engine Driven Centrifugal Pumps are made in five sizes (18 to 110 horsepower) for operation on gasoline, kerosene, distillate, natural gas or butane. All power units have valve-in-head medium speed engines, with removable cylinder liners, efficient cooling systems, force feed lubrication and variable speed governor. Centrifugal pumps are horizontal shaft, single stage, single or double suction pumps designed for handling liquids at normal temperatures with high efficiency. Engines and pumps are mounted on a base, and are available in many combinations to meet various requirements in quantity and pressure up to 5000 gallons per minute and 100 foot heads.



Allis-Chalmers Engine Driven Centrifugal Pump



Allis-Chalmers 3-Way Cadmium Plated Distribution Transformer

REPRESENTATIVES: From Allis-Chalmers Manufacturing Company: Oscar Haas, manager Tulsa office; F. A. Talbot and Merle Kleckner of Oklahoma City; E. Franks and E. Abramson of Milwaukee; various executives, factory representatives, district and branch office representatives.

From Fred E. Cooper: Fred E. Cooper, A. G. Bailey, H. B. Bloxsom, R. A. Clapp, J. T. Daniel, James Dennis, C. L. Elliott, John Flannagan, Louis Gasche, A. T. Jacobs, H. R. Kramp, R. R. Kirkpatrick, H. R. Moon, F. W. Murphy, C. F. Nelson, W. C. Simpson, E. H. Smith, L. A. Wilsey, B. R. Wiggins, Glen L. Wigton, O. J. Work, C. O. Work, R. A. Teegarden, Lloyd Simpson, E. E. Everson, E. H. Cochran, Gerald Dixon, C. D. Houser, J. S. Province, Guy Reed, George Plant, Kenneth Tate, Kenneth Fleet, W. H. Allen, E. L. Kirkpatrick, Ernest Franks and E. Abramson.

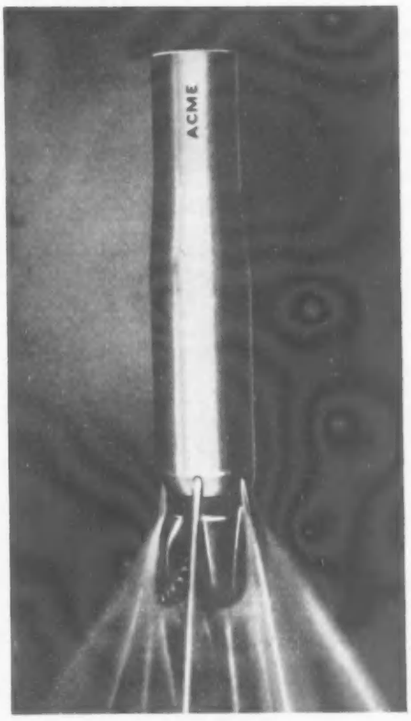
Acme Fishing Tool Company

PARKERSBURG, W. VA.
Block 3, Outside

EXHIBIT: Rotary mud collar. Cable tool drilling and fishing tools. Wire line drilling clamps.

NEW PRODUCTS:

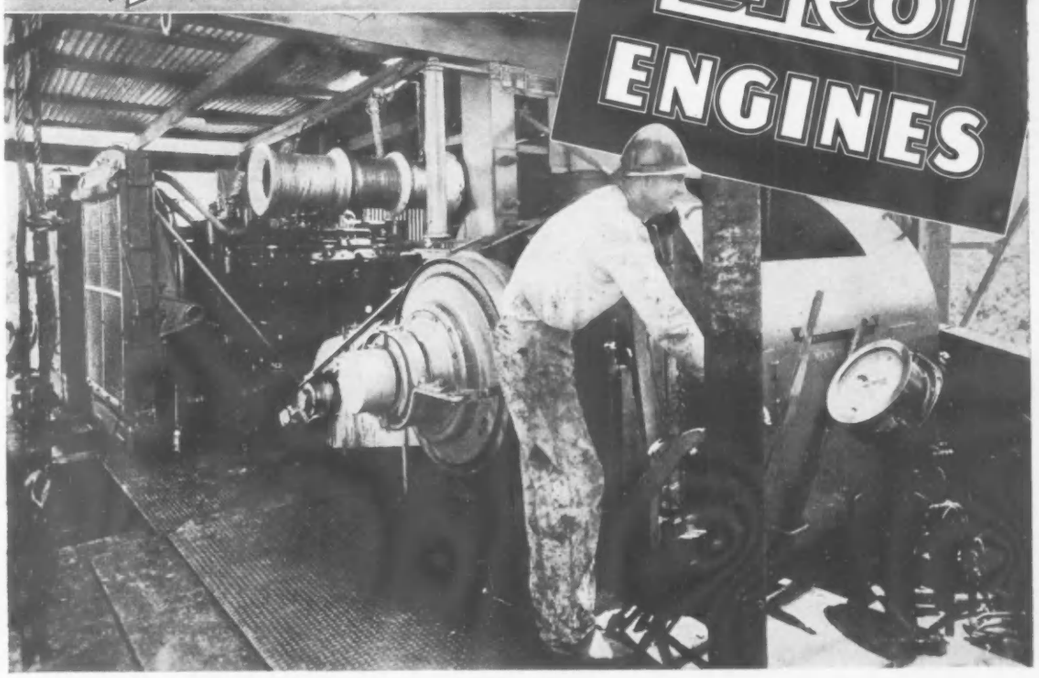
Acme Rotary Mud Collar has as its purpose the cleaning of rotary drilling bits while they are in operation in the hole. The device is a collar with tool joints for use between the bit and drill collar on a rotary drilling string. It houses a fluid cylinder or chamber from which six pressure streams are diverted to the outside of the bit. The fluid is forced through the tubes under pressures of 200 to 1000 pounds. Manufacturer asserts this has been proven to keep the bit clean under normal drilling conditions, thus eliminating mud rings and balled up bit, and thereby resulting in faster, smoother and easier cutting with less dragging and strain on the drill pipe.



Acme Mud Collar

You'll Get Dependable...

POWER from LE ROI ENGINES



Le Roi Engines have gained wide acceptance in the oil field because:

- √ they are rugged and dependable.
- √ they provide uninterrupted power equal to the most severe demands.
- √ their operating speeds are conservative, thus contributing to long life and low maintenance cost.
- √ they burn natural gas — gasoline — or butane.
- √ be sure to see them at the Oil Show.

LE ROI COMPANY MILWAUKEE, WISCONSIN
TULSA, OKLAHOMA

GENERAL MACHINE & SUPPLY CO.
WICHITA FALLS • ODESSA, TEXAS

SOUTHERN ENGINE & PUMP COMPANY
HOUSTON • DALLAS • KILGORE
BROWNWOOD • CORPUS CHRISTI, TEXAS

WESTERN MACHINERY COMPANY
SALEM, ILL • EVANSVILLE, IND.

The National Supply Company

PITTSBURGH, PA.
National Bldg.

EXHIBIT: New and improved Ideal and National oil field drilling and producing equipment. Demonstrations of National's field replacement service on shrink thread tool joints, gear cutting on Farrell-Sykes gear generator, surveying of Ideal rotary drill collars, checking tool joint threads with Jones and Lamson comparator, fatigue test of steel with Moore Fatigue testing machine, and operation of American Blower Company hydraulic couplings.

NEW PRODUCTS:

National Type TU234-JD23TB Unit Pumper has arc welded frame and Samson post to provide maximum strength and rigidity at small weight. The reduction gear ratio, together with variation in V-belt sheave sizes enables the

National TU234-JD23TB Unit Pumper

adaptation of high, medium and slow speed prime movers. Frame is made with a short base to which extension bases with slide rails for various types of prime movers are bolted, making changes in the field comparatively simple. Changing V-belt sheaves is facilitated by a tapered shaft which includes a locking device and a puller for easy removal. Increased strength and rigidity of complete assembly provided by four foundation bolts that go entirely through the frame and engage the reduction gear base. These are in addition to the usual bolts for bolting the reduction gear to the frame.

National Type TU304-HD30TB Unit Pumper is a twin crank unit for medium pumping service. Its features in-

National TU304-HD30TB Unit Pumper

National TU70G-JD7T Unit Pumper

corporate: an arc welded construction providing maximum strength and rigidity and less weight in proportion to capacity; reduction gear ratio, together with variation in V-belt sheave sizes, enables the adaptation of high, medium and low speed prime movers; the frame is made with short base to which extension bases with slide rails for various types of prime movers are bolted, making changes in the field comparatively simple; changing V-belt sheaves is facilitated by a tapered shaft which includes a locking device and a puller for easy removal. The entire unit is symmetrical in construction from the arrangement of the balanced gear train to the four-legged Samson post, consequently there is no tendency toward misalignment through unequal wear and distortion. API walking beam load of 12,750 pounds.

National Type TU70G-JD7T Unit Pumper is designed for installation in shallower fields where single well pumping is desirable. It is of twin crank design, and made to operate for years with little attention or maintenance. Notwithstanding its similarity in general appearance and design to pumpers used on deeper work, it meets the requirements of low first cost. This has been accomplished by an economy and simplicity of design through careful analysis of every part, and a compact, integral, all welded construction which achieves rated capacity with less weight. API walking beam load of 4000 pounds.

National Type TU20G-JD2T Unit Pumper is designed to make single well pumping in the shallowest fields practical. For installations where topography is rough, or where it is desirable to vary strokes and duration of pumping between wells, it is suited in particular. It also offers means of eliminating long rod lines, and since it is moved and installed easily makes an economical temporary lifting unit. API walking beam capacity of 3000 pounds.

National Type G-150-B Geared Pumping Power is designed and built for heaviest requirements of central power pumping. It is weatherproof and adaptable to all types of prime movers. Nominal horsepower rating at 20 strokes is 177. API peak torque rating at 20 strokes is 714,500 inch pounds. Connections for 24 wells.

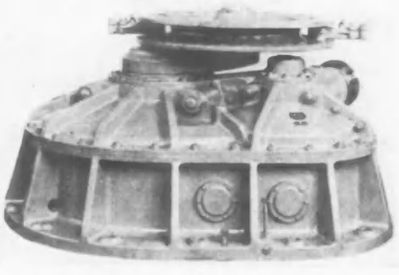
Superior Type CM Convertible Gas and Oil Engine is a single flywheel, horizontal, two-cycle unit with built-in clutch to make a self-contained two-bearing unit for mounting on pumper base or on concrete that operates on either gas or oil. By eliminating an outboard bearing and coupled clutch, or stubshaft, the possibility of alignment difficulty is avoided. Removal of V-belt or flat belt is easy. Saving in foundation, width of building and erection labor reduces installation cost. The basic engine design incorporates roller main bearings and roller bearing in clutch. Extra heavy single flywheel at operating side. Built in water pump optional. Automatic air starting valve on

National TU20G-JD2T Pumper

12½x16-inch and large, optional on smaller. Convertible oil engine runs on crude.

Superior Type CS Convertible Gas and Oil Engines are horizontal two-cycle especially arranged to drive alternating current generator, supply low cost current for pumping with motors on small properties. The oil engine operates on the better grades of crude or on Diesel fuel oil. Extra heavy flywheel and special mixing valve for closer regulation. Skid mounting optional, and radiator optional on four smaller sizes. The V-belt driven generator, usually at 1200 revolutions, can be equipped with built-in instruments and voltage regulator, all wired to generator, to eliminate switchboard and its wiring.

Superior Type DV Vertical Engine, a two-cycle two-cylinder unit, has a 4-inch bore and 5-inch stroke with a continuous load rating of 10 horsepower at 700 revolutions. Speed range



National Type G-150-B Geared Power

HOW GRAVEL PACKING INCREASES WELL PRODUCTION

GRAVEL PACKING of an oil well consists of interposing gravel or other granular material between a producing sand and the screen or perforated liner of an oil string.

The advantages of gravel packing as commercially developed are:

1. An increase of the producing life of a well.

2. The oil sand is maintained in position so that none of it sloughs into the well bore.

3. The elimination of sand sloughing prevents the sand cutting of screens, tubing, pumps, etc., and this greatly extends the useful life of the equipment.

4. Well production is increased and maintained and there is a substantial reduction in lost time otherwise caused by frequent clean-out jobs to keep the wells at peak condition.

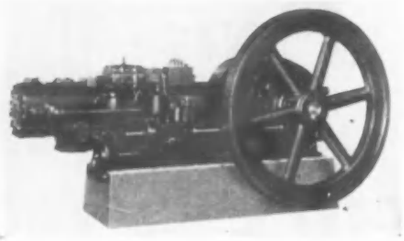
Licenses for Gravel Packing under United States Patents Nos. 1,530,221; 1,975,162; 2,014,770; 2,096,904; 2,154,461; 2,167,190; 2,167,191; 2,173,119 are available from:—

TEXACO
REG. T. M.

TEXACO DEVELOPMENT CORPORATION

A Subsidiary of The Texas Corporation

26 Journal Square • Jersey City, N. J.



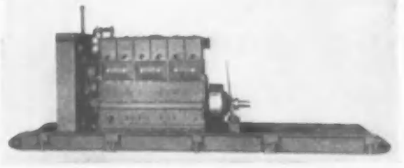
Superior Type CS Convertible Engine

is from 400 to 800 revolutions. It is a low horsepower engine for single well pumpers in shallow fields. It was designed to combine simplicity and economy of horizontal slow speed gas engines and compactness and mobility of higher speed multi-cylinder types. It is a self-contained unit complete with

Superior Type DV Vertical Gas Engine

radiator and power takeoff. Cross head type of construction prevents crankcase oil from contacting hot piston and being contaminated by carbon. Cylinder and piston wear minimized because side thrust of connecting rod is carried by the crosshead.

Superior Type ORD-6 Diesel Engine is of conventional medium speed, four-cycle, solid injection type. It is designed

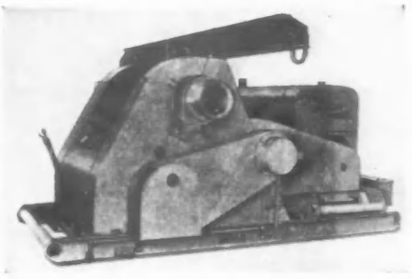


Superior Type ORD-6 Diesel Engine

particularly for drilling service and incorporates many new features. It is convertible to operate on gas fuel. Six-cylinder models have 250 horsepower rating and eight-cylinder units have 335 horsepower rating. Both have 8-inch bore with 9½-inch stroke.

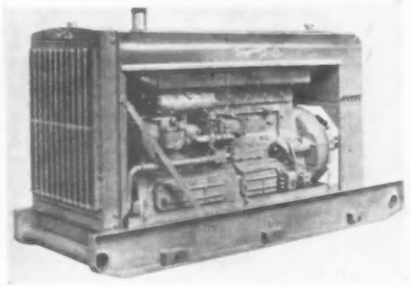
Superior Type ID-8 Diesel Drilling Engine Unit is for rotary or cable tool drilling. Type ID is of medium speed, four-cycle, solid injection, full Diesel type and is built in six and eight-cylinder models. Engine may be equipped with either electric or gasoline engine starting. The six-cylinder units develop from 66 horsepower at 700 revolutions to 142 horsepower at 1500 revolutions. The eight-cylinder models develop 88 horsepower at 700 revolutions and up to 189 horsepower at 1500 revolutions.

Ideal Consolidated Drawworks Type 40 comprises a drawworks with engine and four-speed transmission, all



Ideal Consolidated Drawworks Type 40

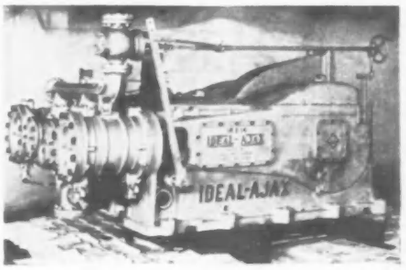
mounted as a portable unit. Recommended for drilling to 4000 feet with 4½-inch drill pipe. Features claimed for the unit include: portability combined with ruggedness; quickness in rigging up; special heavy-duty constant mesh transmission to provide four hoisting speeds and four rotary speeds; master friction clutch providing control over all operations; complete guard system; easily accessible lubrication fittings and brake adjustment; balanced drum assembly with 16x14 inch drum; spray



Superior ID-8 Diesel Drilling Engine

water cooling system for the 42x8⅝ inch steel brake rims; catheads removed easily from tapered ends of catshaft; complete with roller chair and tie-down beam; optional sand reel.

Ideal-Ajax 14x14 Type B Roller Bearing Steam Drilling Engine has cylinders provided with removable liners made of close-grained, centrifugally cast, alloy iron that are pressed into the cylinder and then locked securely in place. This permits easily



Ideal-Ajax 14x14 Type B Steam Drilling Engine

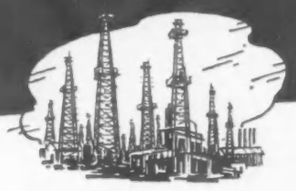
field replacement. Cylinder lubrication has been improved by equipping the steam manifold with coil type atomizers. These condensing coil type atomizers emulsify the oil to a fog form before it is released into the steam flow. Steam distribution and economy is advanced, and more power is developed with redesigned valve gear details and steam ports. The straight line, double eccentric link mechanism has been refined and simplified. Crank shaft has been increased in diameter to 7½ inches through the main bearings and sprocket, and the center distance between the main bearings has been reduced to 35 inches. Manually operated, improved reverse levers are adjustable to suit different drawworks. Both a steam operated, as well as a hydraulic power reverse can be furnished. Frame is provided with built-in flanges for a simplified, oil tight chain and sprocket guard.

Ideal HS-20½ Rotary Machine is a heavy duty unit with great flexibility of operation especially designed for exceptionally deep drilling. Gear ratio of 2.76 to 1 permits a wide choice in the selection of rotating speeds by simply changing the sprocket size. When furnished with a 17-tooth sprocket the rotary is equipped for conventional rotating speeds. With a 14-tooth sprocket the HS-20½ rotary can be used at speeds up to 350 revolutions.

Ideal HS-20½ Rotary Machine

Ideal Type M Swivel has a rating of 250 tons. Automatically adjusted "V" packing is provided for wash pipe. Preformed weldless bail forged from a solid steel billet, has eyes accurately bored in relation to the hook bend, and with increased diameter at the hook bend. Automatically adjusted packing seals off the oil between the sleeve and body, eliminating old style glands and square packing. Bail pins carry load in double shear. Body is so designed that a constant circulation of oil is automat-

NEW IMPROVED Thermoid ROTARY HOSE SETS A NEW PACE IN THE OIL FIELDS



. 3520
ermoid
otary
Hose

Five years ago Thermoid pioneered Rotary Hose for the most severe service on newly developed compounded and heavy duty oversize pumps then in use. That hose turned in highly satisfactory performance, but as usual Thermoid didn't stop there. Constant checking, testing, and improving of specifications by our Oil Field Engineers resulted in further improvements in Thermoid Rotary Hose which were announced two years ago.

Now, after further development and research in the oil fields, Thermoid announces an even superior line of Rotary Hose, available in four distinct constructions . . . one for each basic drilling condition. They are as follows:

1. SHP—Built to withstand an initial test pressure of 7500 lbs. Reinforced with 6 layers of high-test giant wire applied at carefully calculated reverse angles for maximum flexibility and resistance to elongation. USES: For deep drilling under today's high pressures.

2. #3520—Built to withstand initial test pressure of 5000 lbs. Reinforced with three layers of braided wire applied at reverse angles for maximum flexibility, plus a special crescent-shaped wire that adds greatly to the strength of the hose. USES: For all regular drilling.

3. #3300—Built to withstand initial test pressure of 4000 lbs. Constructed with 2 layers of braided wire reinforcement, supplemented by an additional coil of crescent-shaped high-test wire for overall strength. USES: For regular drilling when low pressures are used.

4. #3250—Built to withstand an initial test pressure of 3000 lbs. Constructed with 2 layers of braided reinforcing wire applied at reverse angles for maximum flexibility and resistance to elongation. USES: For shallow drilling at low pressures.

The right hose for each type of drilling operation, plus greater basic strength naturally leads to longer service . . . and lower costs per foot of drilling.

NEW BUILT-IN COUPLING

Adding to the efficiency and economy of Thermoid Rotary Hose is a coupling that is really "built-in". Because it actually becomes an integral part of the hose itself, you are assured these important advantages:

- ★ **Smooth, uninterrupted flow.**
- ★ **Strong reinforcement at the end of the hose.**
- ★ **Positive elimination of coupling leaks and failures.**
- ★ **Easily replaceable coupling head.**
- ★ **Complete coupling is considerably lighter in weight.**
- ★ **Simplicity of contour, superior strength and ruggedness.**

Get Your Copy of the New Catalog on Thermoid Improved Rotary Hose Now!

· ROTARY HOSE ·
AIR · STEAM · WELDING
REFINERY HOSE
· PACKINGS ·
PUMPING AND
DRILLING BELTS
BRAKE LININGS
AND
BRAKE BLOCKS

Thermoid

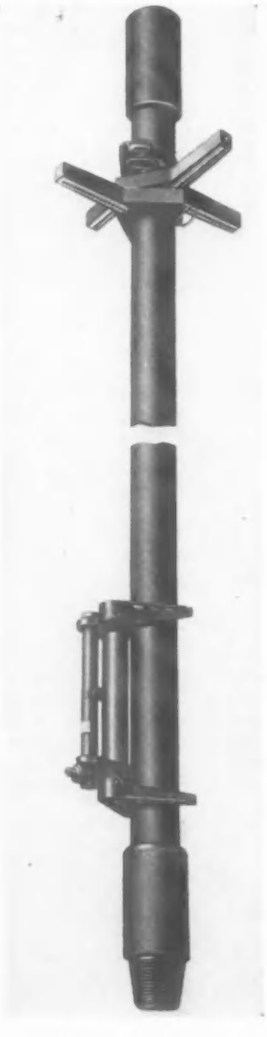
PRODUCTS FOR THE OIL INDUSTRY
DISTRIBUTED IN ALL OIL FIELDS BY
OIL WELL SUPPLY COMPANY

ically induced when the swivel is in operation. Unitary assembly of sleeve, bearings and coupling permits these parts to be removed as a unit without disturbing adjustment of the bearings or removing the coupling.

Ideal 88 Traveling Block has five independently mounted 48-inch roller bearing manganese steel sheaves and a rated load capacity of 300 tons. Each sheave is held in a fixed lateral position on the center pin.

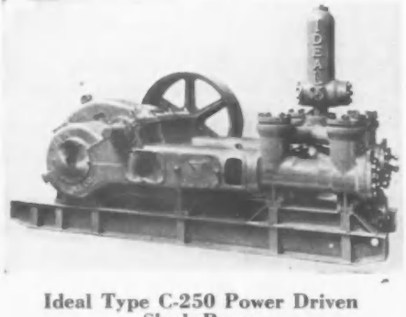
Ideal Alignascope was developed for keeping an accurate check on the straightness of drill pipe, stem, joints and collars. With this alignascope the regular crews can survey sections of the drilling string while suspended in the derrick, either when running in or coming out of the hole. They can check the straightness of each stand as a whole or the individual lengths of pipe and individual joints.

Ideal Type M Swivel



Ideal Alignascope

Ideal Power Driven Slush Pump Type C-250 is a 7¼x15 unit for fast drilling and high pressure. The horsepower rating of the power end and the pressure rating of the fluid end makes it capable of the same performance as corresponding Ideal steam slush pumps. Maximum working pressure of fluid cylinder is 2500 pounds.



Ideal Type C-250 Power Driven Slush Pump

Ideal 88 Traveling Block

Other New Items—In addition to the above machinery, National will have on display the following new items: Type TUS694-HD80T Unit Pumper, Type E-160 Pumping Jack, Ideal Type SD Auxiliary Rotary Drive, and Ideal Type 75 Consolidated Rig.

REPRESENTATIVES: J. M. Wilson, chairman of the board; A. E. Walker, president; D. S. Faulkner, vice president; A. W. McKinney, vice president; J. C. Shouvlin, vice president; Naurice G. Cummings, vice president; M. T. Archer, director of research; J. R. Mahan, chief engineer; D. G. Mann, division manager; R. W. Gordon, division manager; I. G. Wetherill, division manager; James M. Thompson, division tubular manager; M. D. Munder, division tubular manager; H. L. Putnam, division sales manager; D. F. Payte, division sales manager; C. A. McCollum, district manager; M. F. Cribbs, special representative; W. R. Ryburn, special representative.

The White Motor Company

CLEVELAND, OHIO
Block G Outside

EXHIBIT: Various sizes and types of White trucks with oil field well servicing equipment mounted.

INTERNATIONAL PETROLEUM EXPOSITION — TULSA — MAY 18th TO 25th
BOOTHS 206 - 245, OKLAHOMA BUILDING

McKISSICK

With 100 Ton
Triplex Hook

Featuring the NEW
McKISSICK TRAVELING BLOCK

A new member of the already famous-for-service family of McKissick blocks. Designed especially for light Rotary Drilling, this Triple Safety Traveling Block is extra sturdy and at the same time compactly designed.

Write today for Illustrated Folder

McKISSICK PRODUCTS CORPORATION • TULSA, OKLAHOMA

Chain Belt Company

MILWAUKEE, WISCONSIN
Booths 70-71 Texas Bldg.

EXHIBIT: Various types and sizes of Rex chain belts including Rex Deepwell, Champion Universal 3125, and roller chain belt. Sprockets. Photographs of mud screens, concrete mixers, material handling conveyors and other products.

NEW PRODUCTS:

Rex Chabelco Sidebar Roller Chain Belts are a new series of even pitch offset type. They are made in four sizes, 1¼-inch pitch, 1½-inch pitch, 1¾-inch pitch and 2-inch pitch, which are known as Rex Chabelco 3100, 3120, 3140 and 3160. They are made in either single or double strands and can also be furnished in other multiple widths. Their ultimate strength, yield points and fatigue limits are identical with Manufacturers Standard Roller Chain Belts of like size, and the controlling dimensions of both styles are identical. Consequently, the new series can be substituted for and inter-coupled with Manufactuers Standard roller chain belts. The Rex 3100 series chain are finely finished and precision made. Rollers are made from solid stock and have a ground finish. Sidebars are die cut and machine beveled. Pins have three diameters and are hardened and ground. The offset sidebar construction provides wearing quality. Pitch elongation due to normal wear is divided over all links and a smooth sprocket action is therefore obtained. Bearing areas are carefully finished and ground to exact size. Alloy heat treated steels are used throughout.

REPRESENTATIVES: Brinton Welser, vice president; A. R. Abelt, secretary and chain sales manager; R. G. Davis, assistant chain sales manager; M. G. Jewett, chief engineer; J. W. Snavely, Houston district manager; James Moore, Houston, and W. Pitts, Oklahoma City.

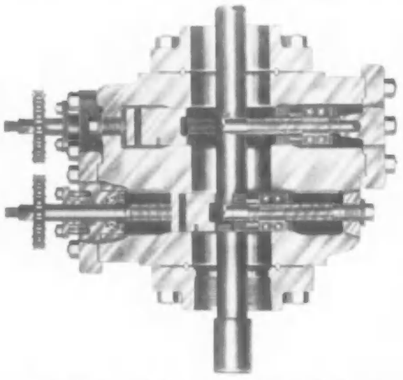
Shaffer Tool Works

BREA, CALIFORNIA
Booths 1-2 Oklahoma Bldg.

EXHIBIT: New double cellar control gate. New drill pipe centering rams. New cellar control gate closing engine. Type 38 cellar control gate. Complete line of Shaffer fishing tools, including Shaffer-Hamon rotary releasing spears, Shaffer T. & T. rotary releasing spears, Shaffer-Hamon rotary releasing sockets, Shaffer T. & T. rotary releasing sockets, Shaffer-Hamon step slip rotary releasing sockets, Shaffer expanding pin tap and Shaffer inside casing cutters.

NEW PRODUCTS:

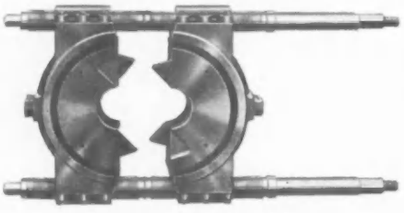
Shaffer Double Cellar Control Gate: This Gate is constructed with two ram compartments, the upper of which is equipped with rams to close around pipe and the lower with rams for a complete shut-off when the pipe is out of the hole. The gate is designed for



Shaffer Double Cellar Control Gate

use where the vertical space available is so small that it is desirable to reduce even the very small space required for two single gates with connecting spool between. The two ram compartments are modeled after the Shaffer Type 34 cellar control gate and Type 39 self-centering rams for closing around pipe are provided in the upper compartment. The end cover for removal of the ram assembly in the upper compartment is located at the front end of the gate and that for the lower compartment in the rear end. The extension of the operating screws of both compartments are on the same end and remote control is used in the same manner as when two gates are employed.

Shaffer Centering Rams: These rams provide a self-centering device to center drill pipe in cellar control gates which are used to close around pipe.



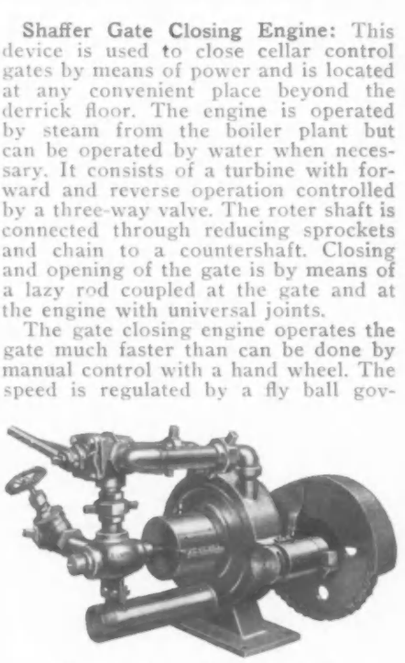
Shaffer Centering Ram

The increasing use of small size drill pipe in large casing makes this feature particularly advantageous and in all cases, by centering the drill pipe in the bore of the gate, assures proper alignment with the rubber faced bore of the rams.

The self-centering rams are made with protruding angular guides alternatingly top and bottom. As the rams move toward their closed position the angular guides engage the drill pipe and move it into central position in the ram. The angular guides telescope into the opposite ram block which permits the abutting faces of the ram blocks to seal perfectly. Ram rubbers are furnished of toughest, oil-resisting stock or of neoprene. They are readily replaced when renewal is necessary.

Shaffer Gate Closing Engine: This device is used to close cellar control gates by means of power and is located at any convenient place beyond the derrick floor. The engine is operated by steam from the boiler plant but can be operated by water when necessary. It consists of a turbine with forward and reverse operation controlled by a three-way valve. The roter shaft is connected through reducing sprockets and chain to a countershaft. Closing and opening of the gate is by means of a lazy rod coupled at the gate and at the engine with universal joints.

The gate closing engine operates the gate much faster than can be done by manual control with a hand wheel. The speed is regulated by a fly ball gov-



Shaffer Gate Closing Engine

ernor. Sufficient impact to jar loose a set of tightly closed rams or to hammer a gate closed when conditions make closing difficult is provided by a lug near the axis of the driven sprocket which, when revolving, engages a similar lug on the counter shaft. Either one or two gates may be operated by this engine.

REPRESENTATIVES: W. D. Shaffer, president; Carl N. Vogt, sales manager for Texas and Mid-Continent; and other representatives.

Link-Belt Speeder Corporation

CHICAGO, ILLINOIS
Block L Outside

EXHIBIT: Model LS-40 shovel crane.

NEW PRODUCTS:

Model LS-40 Shovel Crane is suited for all-around oil field service, including pipe laying, ditch and slush pit digging, and hoisting operations. It can be furnished with either gasoline or Diesel engine drive. It is mobile, with speeds up to 4 miles per hour, light weight and has a low ground-pressure. The LS-40 is equipped with Caterpillar crawlers fitted with recoil springs which prevent clogging and eliminate breakage. The Caterpillar tracks equip the machine especially well for work requiring constant travel, long moves, and operation over rough or mountainous country, as well as on soft ground. It is quickly converted from shovel to crane without necessitating changes in the main unit.

REPRESENTATIVES: Gus Olson, Hayes Parson, both of Chicago; and H. H. Miller, Dallas.

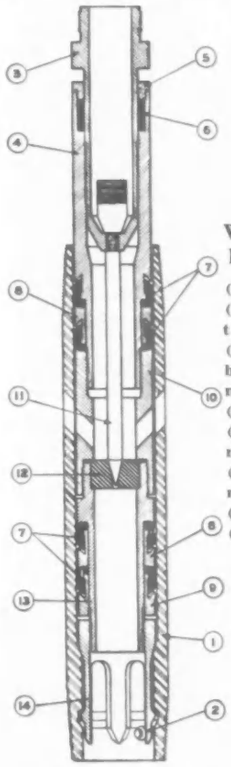
The Bovaird Supply Company

TULSA, OKLAHOMA
Block 1, Outside

EXHIBIT: Oil and gas well supplies.

NEW PRODUCTS:

Williams Control Pumping Choke—This choke was designed for water-driven oil wells having a reasonably high fluid level or bottom hole pressure. When installed with standard oil well pumping equipment, casing packer and regular insert pump, it tends to maintain a near-zero differential pressure on the pay zone. It is especially recommended for prorated wells.



Williams Control Pumping Choke

(1) seating nipple; (2) lock; (3) controlling connector; (4) Choke adjusting body; (5) packing nut; (6) packing; (7) seating cups; (8) cup rings; (9) machined cup ring; (10) adapter; (11) needle; (12) seat; (13) lower cup body; (14) spring lock.

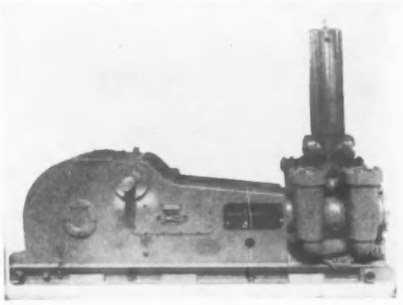
Pumping speed does not affect the rate of flow into the annular space to an appreciable extent. Several advantages are claimed for this choke including: maintenance of bottom-hole pressure on the pay zone, preventing coning or channeling from the lower or water zone into the upper pay zone; allows slow withdrawal at a constant rate per hour or day; control of withdrawal rate from the surface; eliminates handling of excessive amount of water and cuts cost of water disposal; elimination of water column in the annular space, preventing corrosive action against tubular equipment.

Veelos V-Belt—This flexible link V-belt is adjustable to any length adaptable to any drive of any size, every link being a master link. It is quickly made endless around any drive, with no disassembling of bearings or machine on drives using outboard bearings, thereby reducing installation cost.

Velos V-Belt

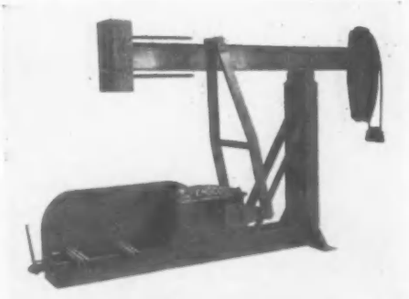
It will operate on sheaves smaller than the minimum recommended for solid belts.

Emsco Power Slush Pump, 7¼ x 12—This new model pump is of all-steel construction with fabricated power end and cast steel fluid end, providing a saving in weight and great strength. Use of cast steel fluid end permits easy field repair by welding. It is recommended for pressure operation of 2000 pounds.



Emsco 7¼ x 12 Power Slush Pump

Emsco D-38-TP Unit Pumper—This unit pumper has an API polish rod capacity of (walking beam) 7300 pounds, and an API pumper reducer peak torque rating of 38,400 inch-pounds at 20 strokes. It was designed for use on light wells where a low-priced, yet dependable single unit is required. The main base and samson post form and assembly, the samson post being constructed of one heavy Carnegie beam welded rigidly to the main base and supported by two angle braces. The walking beam center bearing is of needle roller bearing construction, and the wrist pin bearing assemblies are equipped with self-aligning, roller bearings mounted in cast iron, dust-proof housings. Gears are herringbone and heat treated. All shafts are mounted on roller bearings.



Emsco D-38-TP Unit Pumper

Sperry-Sun Well Surveying Company

PHILADELPHIA, PENNSYLVANIA
Booth 51-52 Scientific and Technical Bldg.

EXHIBIT: "Surwel" Gyroscopic multishot surveying instrument. "H-K" directional magnetic single-shot surveying instrument. "H-K" Inclinometer. "Syfo" Clinograph. Polar core orientation. Magnetic orientation of deflecting tools. "K-K" whipstock and retrieving sub.

NEW PRODUCTS:

"Syfo" Clinograph "Go-Devil" Protective Casing—Uses rubber finger guides rather than spring guides. Instrument is properly centered and moves rapidly as fingers offer less resistance to passage through the hole.

Non-Magnetic Sub—For accurately orienting deflecting tools at the bottom of the hole; can also be used to obtain directional single-shot records inside drill pipe. Sub contains two small magnets and provision for seating "H-K" Magnetic single-shot instrument having a second compass in place of the inclination unit directly opposite the magnets in the sub. The relative azimuthal angle between the magnets and the direction of the face of the deflecting tools being known, a photographic record taken with the single-shot instrument indicates magnetic north and actual position of the deflecting tool. When using the non-magnetic sub for making records inside of drill pipe the second compass in the single-shot instrument is replaced by the inclination unit.

K-K Whipstock and Retrieving Sub—Outstanding features of the Keever whipstock are a tapering outer surface and a straight inner surface comprising a channel laterally curved to form side walls which extend the length of the inner surface. This new design has proven successful, as it confines the bit in the channel and prevents rolling off, and facilitates raising of the bit and removal of the whipstock.

Whipstock is removed from hole by Kothny Retrieving Sub.

REPRESENTATIVES: G. L. Kothny, vice president, Philadelphia; Dwight C. Roberts, regional manager, Houston; J. P. Klep, sales engineer, Houston; Ray Burhen, development engineer, Houston.

Rollway Bearing Company, Incorporated

SYRACUSE, NEW YORK
Booth 58 California Bldg.

EXHIBITS: Straight cylindrical roller bearings, radial and thrust.

REPRESENTATIVES: H. F. Hodgkins, president; H. A. Pierce, sales manager; J. E. Sero, assistant chief engineer; C. W. McNeil, Houston representative; D. A. Cant, Tulsa representative.

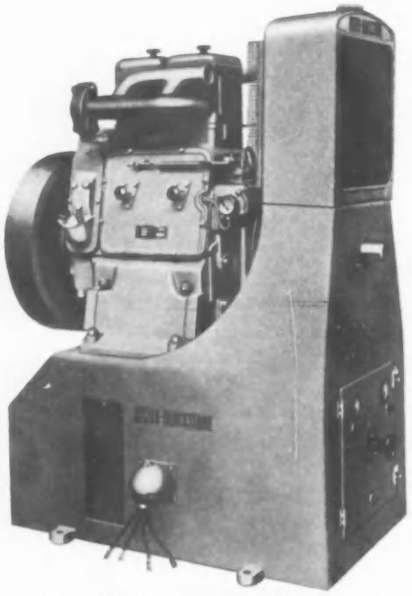
Lister-Blackstone, Inc.

MILWAUKEE, WISCONSIN
Lot R Outside

EXHIBIT: Type 27/3 "Powr-Pak" Diesel electric unit. "Powr-Pak" combination auxiliary unit consisting of engine, generator, air compressor, and water pump. Horizontal type Diesel pumping engine.

NEW PRODUCTS:

"Powr-Pak" Diesel-Electric Power Plants—These units, ranging from 3600 to 24,000 watts, are built to a simple, space-saving design. Plants consist of radiator cooled engine and generator and control panel. Generator sets directly beneath engine, cutting space requirements in half. Power is supplied by Lister 4-cycle Diesel engine using Bosch fuel system. Cylinder walls are chromium impregnated by the Listard process. Dual compression starting system eliminates punks, glow-plugs, and preheating devices.



Lister-Blackstone Powr-Pak Diesel Electric Unit

The American Brass Company

WATERBURY, CONNECTICUTT
Booths 126-127 Texas Bldg.

EXHIBITS: Welding demonstrations of both gas and electric arc methods using Anaconda rods. Anaconda welding rods. Welded parts and equipment of Everdur and Copper. Repair welds on cast iron parts made with Tobin Bronze. Standard Anaconda condenser tube alloy. Super-Nickel and Admiralty tubes. Super-Nickel and Muntz Metal tube sheets. Everdur bolts, nuts and screws. Everdur equipment. Large diameter copper tubes. 3500 foot coil of capillary tubing with outside diameter of .075-inch and inside diameter of .025-inch, weight 55 pounds, produced in one solid, unbroken length by special tube rolling equipment developed by French Small Tube Branch.

REPRESENTATIVES: H. G. Wallis, E. B. Brown, Gordon Hackett, Martin Brandtberg, W. H. Dowd.

Eastman Oil Well Survey Company

DALLAS, TEXAS
Booths 44 and 49 Scientific and Technical Bldg.

EXHIBITS: Removable open hole whipstock. Knuckle joint deflecting tool. Permanent casing whipstock. Spudding bits. Stokenbury and bottom hole methods of orienting. Regular single shot directional surveying instrument. Small inside single shot directional surveying instrument. Multiple shot directional surveying instrument. Drift indicator. Rock and drag directional drilling and reaming bits. Rock type underreamer. Casing rollers.

NEW PRODUCTS:

Bottom Hole Orientation records the relation between a magnetic field, placed in a known relation to the tool face; and the direction of the angle of inclination of the hole. Permanent magnets are placed in a regular substitute directly above the tool being oriented and the angle between the magnets and the direction of the tool face is measured. The tool is stopped at the depth of the last single shot recording. A special instrument is run inside the drill pipe and stopped so that a magnetized disc is between the permanent magnets in the sub. This disc is pulled into the azimuth of the magnets and a record made of the relation of the lower side of the hole and the magnets. The necessary orientation correction is ascertained by the use of a special reader.

Eastman Bottom Hole Orientation

Type-M Drift Indicator eliminates developing of photographic drift indicator records in solutions. Records on light sensitive paper that can be loaded and unloaded in daylight. The instrument is small and compact and can be handled easily and quickly. The mechanism incorporates an arrangement whereby the inclination of the well is recorded by a strong light beam directed through a plumb-bob onto the light-sensitive paper printed with concentric circles, each of which represents a degree.

Eastman Type-M Drift Indicator

The instrument is run into the well, in a new Eastman streamlined barrel, on piano wire, sandline or dropped to bottom just before drill pipe is pulled to change bits. The barrels are supplied with interchangeable connections for all operations and small enough to run through tool joints in 3½-inch regular API drill pipe.

Although not photographic in principle, the new type "M" drift indicator embodies the important advantage of the photographic method of recording. It furnishes a positive reading when the instrument is on bottom and quiet. If moving, a blurred or blank record will be the result and erroneous data can be detected, saving much lost time caused by misleading readings.

The drift angle off vertical only, is available with the new Type-M drift indicator. Directional drift angle surveys are available with Eastman single shot and multiple shot survey instruments.

Crane Packing Company

CHICAGO, ILLINOIS
Booth 108 Texas Bldg.

EXHIBITS: Packing materials required for drilling, production, gasoline plant, pipe lines, and refinery services.

REPRESENTATIVES: F. E. Payne, R. E. Allen, R. W. Overton, E. B. Heathcott, Fred Blackbird, Roy Blackbird.

NEW RECORDS are in the Headlines

"They call me, 'Decathalon Fleetweld' because I excel in so many events. I *run* fast and smooth. I *hurdle* production obstacles. I *heave* more metal into the joint—less into spatter. I *jump* into new fields to conquer. I *throw* light on tough welding problems. I *vault* to new highs in weld quality and economy.

"Where do I get such versatility? From the inherent ability given me by my maker to win over others of my type. And I'm aided a lot by a versatile welding control—that of the New *'Shield-Arc'* and *'Shield-Arc Jr.'* They're equipped with 'Job Selector' which can be set for any TYPE of arc and with Current Control which can be set for any arc INTENSITY. Each is *continuous* in selection and self-indicating. I'm *sure* to get the *exact* arc I need to get first place in every welding event.

"Put us on your team and watch us win profitable points and help you set new records in design, manufacturing and construction. Yours for Progress.

"FLEETWELD ROD"

World's Fastest, Most Versatile Welding Performer — For Sale by

THE LINCOLN ELECTRIC COMPANY, Cleveland, Ohio.

Largest Manufacturers of Arc Welding Equipment in the World.

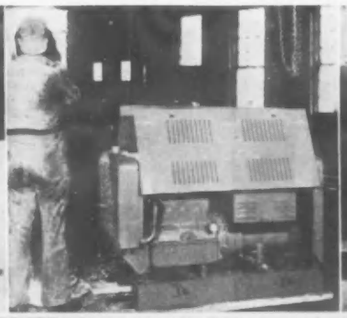
P. S.—See me perform at the OIL SHOW.

NEW LOW PRICE. In line with Lincoln's policy of ever reducing the cost of welding, this Company has recently lowered prices of welders, electrodes and supplies. Write for new price lists.

VALUE RECORD-BREAKER. The new engine-driven *"Shield-Arc Jr."* 200 amp. capacity.—Price $430. Weighs less than 900 lbs. Occupies floor space less than 8 sq. ft. Never before such big performance for such little price.

SPEED KING of pipe line builders are the heavy-duty *"Shield-Arc"* welders—gas engine and diesel engine types. They've set records in every domestic and foreign field. In ratings of 200, 300 and 400 amps.

PIPE BUILDER'S DOZEN. Twelve 200-amp. *"Shield-Arc* Special" Welders on one truck going to a pipe line job in Kansas. These Lincolns are world's most popular all-purpose, moderate-priced welder.



LINCOLN *"SHIELD-ARC"* WELDERS

The *head line* for profits on the welding front

THE LINCOLN ELECTRIC CO., Dept. L-27, Cleveland, Ohio

Send full data on engine driven welders ☐ 200-amp. "Junior" ☐ 200-amp. "Special" ☐ *"Shield-Arc."*
Send free bulletin on welding of ☐ Pipe lines ☐ Tool joints ☐ Casing.

Name _____ Position _____

Company _____

Address _____

City _____ State _____

Wilson Supply Company

HOUSTON, TEXAS
Block L Outside

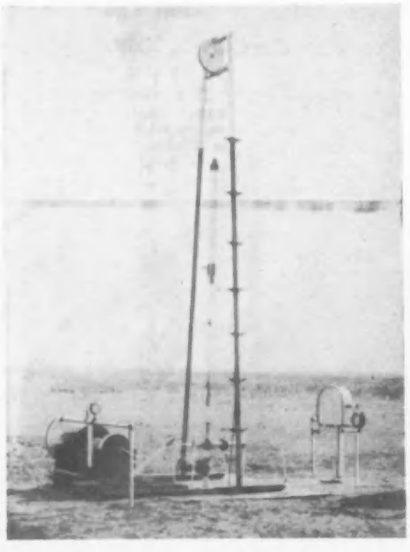
EXHIBIT: Nixon surface control gas lift system. Coffey Robot stack draft. Nixon "Friendly" tubing slips. Nixon pressure reducing regulator. Nixon Type C intermittent flow controller. Nixon chemical injector. Other drilling and producing equipment.

NEW PRODUCTS:

Nixon Surface Control Gas Lift System is shown in a 28-foot working model of the type made for off-bottom production. Fluid can be seen entering the accumulating chamber at the bottom of the hole; when it has built up to the desired volume you can watch the weight bar lower onto the Bottom Hole Flow Valve, open it and allow fluid-lifting gas to pass into the top of the accumulating chamber to force the fluid through a macaroni tubing which extends to the bottom of the chamber, into the tubing string and thence into the field tank.

This is only one of the various types of installations which can be made with the Nixon Surface Control Gas-Lift System. It is adaptable to high or low fluid level wells, to raise large or small volumes and the original installation can be made so the well will be depleted without the installation of additional equipment.

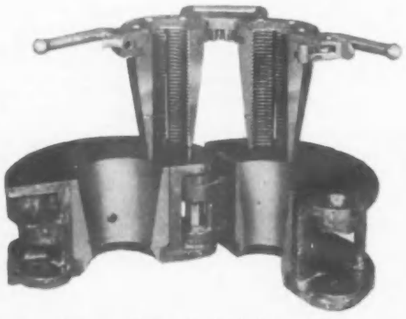
Coffey Robot Stack Draft is used to produce a mechanically-induced draft through an old field boiler. The unit consists of a turbine-driven fan-type blower, located in a specially designed stack 36 inches in height. The short stack has a vent which extends through it, and is open at both ends. The gear box which houses the driving shaft is inserted in this vent and bolted in place. Air circulating through the vent prevents the driving mechanism from becoming overheated by hot flue gases. The turbine is driven by gas when natural gas is the fuel used, and by steam when firing with oil. When firing with gas, the fuel line is connected directly to the intake manifold of the turbine, and an exhaust manifold is connected to the burners located within the firebox of the boiler. By this hook-up, the volume of fuel gas required to fire the boiler passes through the turbine, which drives the fan-type blower inside the short stack. The Coffey Robot Stack Draft automatically regulates the draft in proportion to the volume of fuel used. It protects the flues and flue sheet, as well as eliminating transportation and the expense of raising tall stacks. Fuel gas savings of over 20 percent are reported.



Nixon Surface Control Gas Lift System

Coffey Robot Stack Draft

Nixon "Friendly" Tubing Slips are designed so that one bowl with removable adapters serves all pipe sizes from 3-inch down to 1¼-inch. By using removable adapters to fit various pipe sizes, the slips are all approximately the same weight. The bowl is made of high-tensile "Promal" cast steel, and is equipped with a replaceable hinge and latch. The adapters are supported by a thick shoulder in the bottom of the bowl, and are held in place by a heavy pin and cotter key. Because of this new design, worn slip segments may be replaced for approximately the same cost of a resharpening job. The new segments, when replaced, will give from 50 to 60 percent more service than a reconditioned set. The slips are well balanced, and so tapered that they are self-centering on all pipe sizes. It is not necessary to force the pipe into the center of the bowl if the blocks are not lined up exactly with the hole.



Nixon "Friendly" Tubing Slips

Nixon Pressure Reducing Regulator is a new departure from the conventional throttling type regulator. The main valve is pilot-controlled for snap action, which causes it to be either wide open or entirely closed. Actual pressure reduction takes place in a funnel-shaped positive choke, located downstream from the valve body.

Nixon Selective Flow Differential Regulator

Chokes calibrated for various pressure drops and volumes are furnished with the regulator. Through the use of a pilot-controlled, snap action main valve, which is either wide open or entirely closed, cutting action due to abrasive material in the gas is transferred from the valve member to the easily replaceable positive choke. The pilot-controlled unit may be so adjusted to take care of pressure drops between the regulator and the point of delivery.

Nixon Type C Intermittent Flow Controller used in conjunction with the

The ONLY *Firing Control for use with* EITHER OIL OR GAS FUEL . . . .

INFERNO *Firing Control*

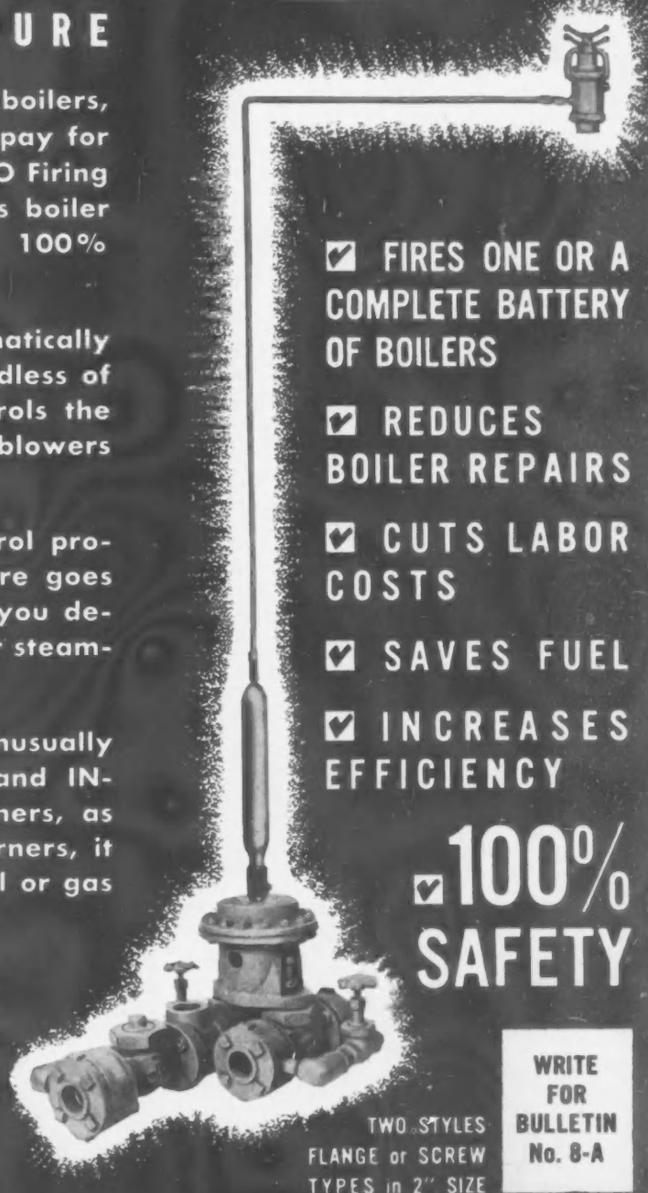
CONTROLS THE FIRE & BLOWERS AND AUTOMATICALLY MAINTAINS UNIFORM STEAM PRESSURE

Whether you use one boiler or a battery of boilers, the INFERNO Firing Control will more than pay for itself in a short period of time. The INFERNO Firing Control cuts labor cost, saves fuel, reduces boiler repairs, increases efficiency and affords 100% safety.

The INFERNO Firing Control maintains automatically a uniform steam pressure in boilers, regardless of the load fluctuation. It automatically controls the blowers. When fires are cut off to idling the blowers are closed.

New features of the INFERNO Firing Control provide: (1) an adjustment whereby your fire goes off and starts up quickly or gradually, as you desire, and (2) a self cleaning attachment for steaming out the fuel line.

While the INFERNO Firing Control gives unusually good results with INFERNO Oil Burners and INFERNO Low Pressure Blue Flame Gas Burners, as well as the INFERNO Special Type Gas Burners, it can be used with any standard make of oil or gas burner.



- ☑ FIRES ONE OR A COMPLETE BATTERY OF BOILERS
- ☑ REDUCES BOILER REPAIRS
- ☑ CUTS LABOR COSTS
- ☑ SAVES FUEL
- ☑ INCREASES EFFICIENCY
- ☑ 100% SAFETY

TWO STYLES FLANGE or SCREW TYPES in 2" SIZE

WRITE FOR BULLETIN No. 8-A

Insist on INFERNO BOILER EQUIPMENT at your Supply Store . . . Specify INFERNO BOILER EQUIPMENT on your New Boilers.

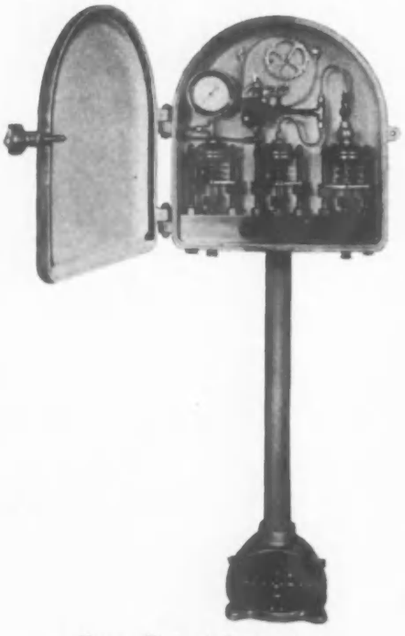
THE INFERNO CO.

"Makers of Better Steam Equipment"

P.O. Box 1138 · 115 Ricou St.
SHREVEPORT, LA., U.S.A.

"Accidents do not happen— they are caused"

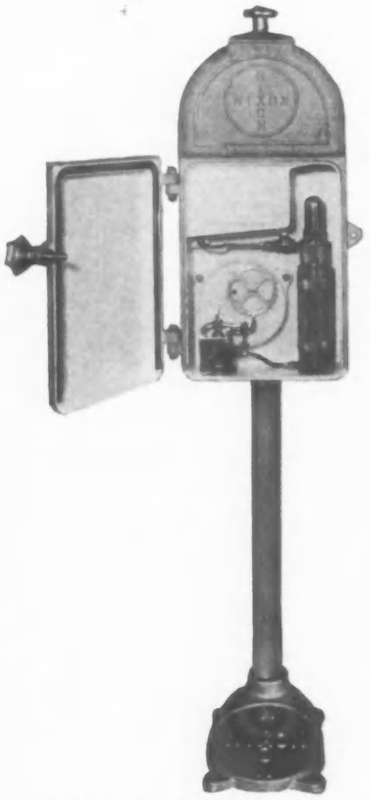
Nixon Surface Control Gas-Lift System, is a new clock-actuated combination fluid-release and time-controlled unit. This device is used to control the opening and closing of flow valves located in the tubing string of a well equipped with the Nixon Surface Control Gas-Lift System. The controller opens the operating flow valve by allowing gas to pass through the unit into a cylinder equipped with a piston, hung above the tubing head. A wire line from which a weight bar is suspended is attached to the piston. When gas passes through the intermitter into the cylinder, the piston arises and opens the flow valve by pulling the weight bar into it. When the intermitter is used as a fluid-release type unit, the piston remains in the up position and holds the flow valve open until fluid reaches the well head, at which time it allows the gas to bleed out of the cylinder, which lowers the piston and closes the flow valve. When full time-control is used on the Intermitter, the



Nixon Type C Intermitter

piston is raised at predetermined intervals and held up the necessary period of time to produce the fluid. The new Nixon Type "C" Intermitter is completely equipped with removable oversize stainless steel valve seats.

Nixon Chemical Injector may be used to meet all oil treating problems where chemical is used as the reacting agent to break oil and water emulsions. The pump is actuated by low-pressure gas, and the rate of injection is controlled by a clock-timed pilot valve. Extreme accuracy in proportioning the amount of chemical needed over a period of a few hours or a full day is made possible by an adjustable pump plunger and a notched timing wheel which controls the rate of injection. As an example to



Nixon Chemical Injector

show the flexibility of the unit, the pump may be set to deliver a maximum volume of 0.545 ounces per stroke from once every three minutes to once every two hours. If, for instance, under average conditions, it is found that one stroke every twenty minutes will deliver sufficient chemical to treat the fluid and then, because of a change in emulsion characteristics, it becomes necessary to double the volume of chemical delivered, the rate of injection is doubled to once every ten minutes by simply changing the notched timing wheel on the control clock.

Baldwin-Duckworth Chain Corporation

SPRINGFIELD, MASSACHUSETTS
Booths 9-10 Texas Bldg.

EXHIBIT: Baldwin Full Flex, Super Service, Dual Purpose and Master Series of rotary drilling chains. A complete line of machine finished roller chain built for oil field service. Baldwin patented roller chain flexible coupling.

REPRESENTATIVES: F. J. Wheeler, general manager; G. D. Gilbert, sales manager; Herman Klaucke, chief engineer; A. T. Arnold, advertising manager; George Fix, George Fix, Jr., Eric Moore, Paul Edkin and Kenneth J. Mills.

Air Reduction Sales Company

NEW YORK, N. Y.

Wilson Welder and Metals Company

NEW YORK, N. Y.

National Carbide Corporation

Booths 30-35 Oklahoma Bldg.

EXHIBITS: Airco oxygen. Acetylene. Other atmospheric gases. Specimens of flame hardened equipment. Welding and cutting apparatus. Actual demonstrations with Airco No. 6-A Oxygraph. Wilson Yellow Jacket. National Carbide.

REPRESENTATIVES: From Air Reduction Sales Company: G. Van Alstyne, C. D'W. Gibson. J. J. Lincoln, Jr., G. V. Slottman, H. W. Reade, A. N. Kugler, D. F. McCandlish, E H. Anchors, M F. Dunne, R. D. Hiller, A. J. Vrooman, L. L. Stewart, O. A. Sutton, O. C. Helvey, J. F. Pryor, L. D. Sugg, H. T. Wadley, H. W. Haggard, G. F. Dickens, A. F. Huna

From Wilson Welder and Metals Company: I B. Yates.

From National Carbide Corporation: E. C. Ackerman, B. N. Gilmore.

Eugene Dietzgen Company

CHICAGO, ILLINOIS
Booth 77 Scientific & Technical Bldg.

EXHIBITS: Surveying instruments and equipment. Oil gaugers tapes. Sounding attachments. Drafting machines. Drafting materials. Reproduction papers and cloths. Directo developing machine.

NEW PRODUCTS:

Reproduction Papers and Cloths—Demonstration of use in making oil field maps.

REPRESENTATIVES: E. E. Price, manager; H. S. Sandler, E. E. Clarkson.

Directo Developing Machine

In this illustration the tower at left contains Activated Alumina, the two horizontal cylinders serve for heating and cooling gas used to reactivate the unit; installed by Pittsburgh Lectrodryer Corporation.

NOBODY NEEDS TO TEND ACTIVATED ALUMINA WHILE IT DRIES 7 MILLION CU. FT. OF GAS DAILY

If you are looking for a better way to prevent valve freeze-ups and internal corrosion of your lines and equipment, you'll be interested in this installation used for a repressuring operation in the Louden (Illinois) field.

They are using Activated Alumina to dry 7,000,000 cubic feet of gas (at line pressure) daily. This equipment requires only a few minutes of attention each day. It can easily be made fully automatic.

The same kind of equipment can catch moisture before it gets into your lines, and can save you money by removing the cause of corrosion and frozen valves. Activated Alumina is being used to handle such volumes as 21,500,000 cubic feet of gas per day, to dry gases to dew-points below 76°C., and it can work continuously at line pressure. The method requires no solutions, evaporators, or moving parts.

Activated Alumina is doing a job for operators of pipe lines, natural gasoline recovery plants, and thermal polymerization units. If you ask, we shall gladly send full information about its use . . . ALUMINUM COMPANY OF AMERICA, (*Sales Agent for* ALUMINUM ORE COMPANY), 1962 Gulf Bldg., Pittsburgh, Pa.

ACTIVATED ALUMINA

AN "ALORCO" ALORCO PRODUCT

Whitney Chain & Manufacturing Company

HARTFORD, CONNECTICUT
Booths 74-75 Kansas Bldg.

EXHIBITS: Whitney roller and silent chains and sprockets. Conveyor chains Flexible couplings.

REPRESENTATIVES: L. B. Reed, vice president; R. J. Howison, sales manager; J. W. Anderson, Dallas representative; F. H. Weiss, Tulsa representative; R. L. Mullaney, assistant general manager; V. A. Hanson, field manager; W. H. C. Berg, metallurgist; E. N. Bidwell, advertising manager.

Otis Pressure Control, Inc.

DALLAS, TEXAS
Booths 224-25, Oklahoma Bldg.

EXHIBIT: Removable bottom-hole regulator. Types B, E and G removable bottom-hole chokes. Removable tubing safety valve. Types C, E and G closing tools. Removable drill-pipe float valve. Automatic paraffin scraper. Wire-line paraffin scraper. Mixing valve. Complete line of running and pulling tools for Otis equipment.

Otis Bottom Hole Regulator

NEW PRODUCTS:

Otis Removable Bottom-Hole Regulator is designed to add surface controlled rate of production to advantages of bottom hole choking. It reduces high tubing flowing pressures to safe workable limits, eliminating danger to life and well connections and doing away with surface heaters. The regulator prevents freezing of surface controls, and because of a more recent innovation in the form of a new type valve enables pumping down through the regulator should it become desirable to kill the well. The opening through the regulator automatically changes when the size of the surface choke is changed to allow for increase or decrease in rate of flow. It is run and pulled under pressure on a measuring line using the same mechanism used with Otis removable bottom hole chokes. Tubing and casing are not disturbed. In effect, this regulator is said to be a pressure-operated variable bottom-hole choke. The effective size of the bean varies with the pressure drop across the assembly, which pressure drop is controlled by the use of a surface choke or regulator.

Wire Line Paraffin Scraper

Otis Wire Line Paraffin Scraper is run into the tubing of a flowing well under pressure on a steel wire line and utilizes flow energy and velocity in removing paraffin deposits. Possibility of the scraper being blown up the hole while being run against flow is said to be eliminated by the Otis safety lock, having a set of slips held in constant engagement with the tubing walls that allow the scraper to move down but will bite into the tubing and lock the scraper against any upward movement. The scraper is designed to function in the accepted manner of starting at the top and drilling down. It can be furnished with the rotating-type cutter, or with a jar-down type circular cutter. The rotating cutter is rotated by well flow and actually drills the paraffin out of the tubing. The circular cutter is driven down by a stem through the action of stroke jars. Regardless of which type cutter is used, flow carries the loosened paraffin out of the well. Well flow also scours the tubing and helps loosen the paraffin.

REPRESENTATIVES: H. C. Otis, J. C. Luccous, H. C. Laird, J. O. Farmer, D. M. Meabon and L. M. Wilhoit.

L. H. Gilmer Company

TACONY, PHILADELPHIA, PA.
Booth 47 California Bldg.

EXHIBITS: Gilmer V-belts in multiple and fractional horsepower sizes, and sheaves. Gilmer Kable Kord flat belting in endless form and in rolls for running lengths.

REPRESENTATIVES: M. R. Oberholzer, sales manager; D. A. Cant, Oklahoma district manager; C. P. Williams, Texas district manager; A. K. Schindewolf, Louisiana state manager.

Elastic Stop Nut Corporation

ELIZABETH, NEW JERSEY
Booth 76 Scientific and Technical Bldg.

EXHIBITS: Complete line of self-locking nuts. Wide range of combinations in type, size, material and thread system.

REPRESENTATIVES: H. B. Thomas, vice president in charge of sales; Kenneth Carroll, Houston sales representative; H. J. Wood, sales engineer; L. L. McMaster, sales engineer.

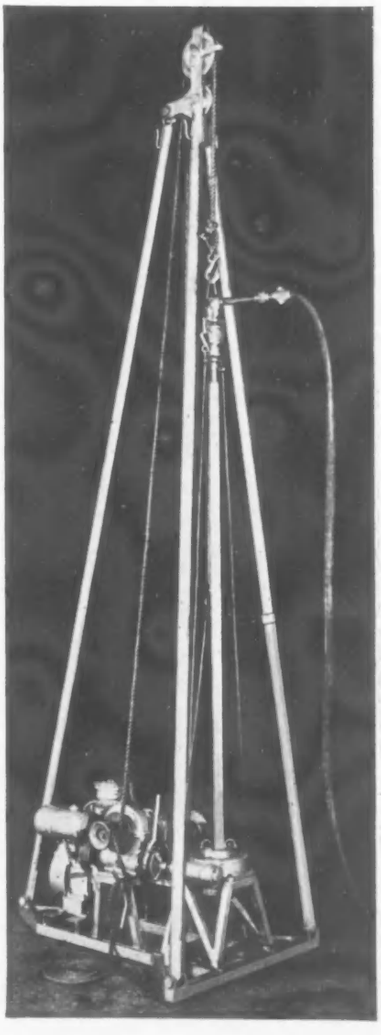
Engineering Laboratories, Inc.

TULSA, OKLAHOMA
Booths 13-14 Scientific and Technical Bldg.

EXHIBITS: Subsurface pressure gauges. Subsurface sampler. Subsurface thermometer. Pipe line radios. Geophysical radios. Portable drill. Portable cable reels. Mud sampling equipment.

NEW PRODUCTS:

A-3 Portable Rotary Drill for use in areas where terrain and road conditions require extreme portability. The drill disassembles into several parts, the heaviest of which is the 5 horsepower gasoline engine weighing 105 pounds. No other part of the assembly weighs more than 75 pounds. Drill rod, 1⅝-inch O.D., known as "A" rod, is used in 7-foot lengths to facilitate a lighter and shorter three-legged mast. Cou-



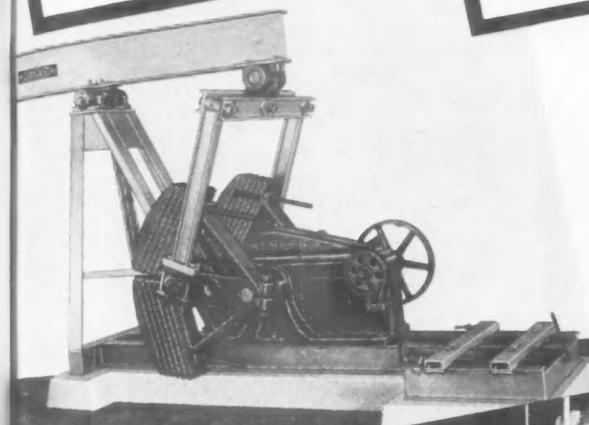
Engineering Laboratories A-3 Portable Rotary Drill

HAVE YOU *Considered* ALL THREE?

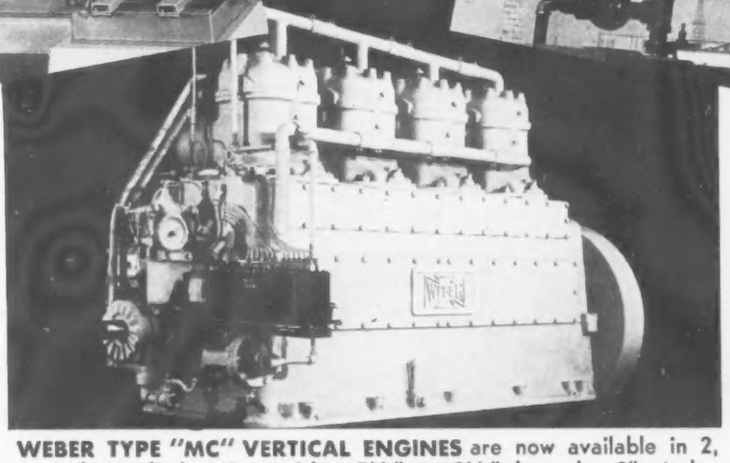
INDIVIDUAL PUMPERS

CENTRAL POWER PLANT

GAS LIFT INTERMITTERS



See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY. 18-25



ATLAS PUMPING UNITS merit your consideration, if your requirements call for this class of machinery. The unit pictured above is typical of a wide range of sizes, carefully designed, accurately manufactured, and built to operate with a minimum of attention.

WEBER TYPE "MC" VERTICAL ENGINES are now available in 2, 3, and 4 cylinder sizes, either 7½" or 8¼" bore by 9" stroke, ranging from 50 HP to 120 HP. These two-cycle, medium speed engines, with the Weber patented, supercharging, Step Piston design can be furnished to operate on gas, Diesel fuel, or butane. They are ideal engines for operating geared powers, central generating plants, pipe line pumps and compressors.

JONES-STAGGS INTERMITTERS, for producing wells by intermittent gas-lift, are increasingly popular where an adequate gas supply is available. With this simple, efficient device, low cost oil recovery is possible even when fluid levels are below the bottom of the casing, and loose formation sand is troublesome.

ONLY ATLAS HAS ALL THREE! GET THE FACTS, BECAUSE THEY'RE FREE

ATLAS SUPPLY CO.

MUSKOGEE, OKLA., U.S.A.
Branches in principal oil fields

Subsidiary of
WHEELING STEEL CORPORATION

plings and water swivel permit a water course of 1⅛ inches throughout the system, which is the inside diameter of the drill rod itself. A mechanical pull-down arrangement is clutch operated and allows the entire weight of the machine to be applied on the drill rod. Additional weight may be supplied if required. Several types of pumping equipment are offered, weighing from 65 pounds complete up to 225 pounds. In no case does any one unit weigh more than 103 pounds, when disassembled. The machine is quiet in operation, being belt-connected to the engine and direct-connected through the hoisting drum, cathead, and to the rotary table itself. Portability was not obtained by sacrificing strength, but rather by special engineering and selection of parts and materials. Simplification has greatly reduced the number of parts and consequent repair and maintenance expense. Assembly time, 30 minutes with crew of four men; knock down time 20 minutes with crew of four men. All structural members of mast and draw works made of seamless steel tubing.

Subsurface Pressure Gauges—Two types are offered: (1) Maximum recorder and (2) Clock recorder. One and one-quarter inch O.D. gauge may be used in wells equipped with 1½-inch tubing or larger. Gauges are designed to be lowered into a well on a small diameter wire, or in special containers in connection with pumps or formation testers. Principal features: With ordinary care, pressures can be measured with an accuracy of 0.5 percent and with special precaution, an accuracy of 0.25 percent. Pressures can be measured with the same relative accuracy over almost any desired range up to 6000 pounds per square inch or higher, if necessary, by equipping the gauge with the proper spring element. Subjecting the gauge to a pressure higher than the maximum rated pressure for a particular spring element will not derange the spring nor necessarily damage the gauge. The available clock recorded mechanisms provide different chart speeds and running times covering a range suitable for the different running schedules encountered in pressure surveys. The diameter of the gauge is small enough to permit running into a well equipped with 1½-inch tubing or a flowing well having 2-inch tubing. The instrument is sufficiently rugged to withstand the abuse of field use.

High Pressure Subsurface Sampler designed to secure samples within the well bore at predetermined depths and to retain them under pressure. It consists of a tubular chamber, suitably sealed, with a mechanism for opening and closing at the sampling depth. Capacity from 450 to 475 cubic centimeters. The sampler is lowered into the well on the same smooth wire line and with the same reeling equipment that is used with the pressure gauge and recording thermometer.

Engineering Laboratories (A) Subsurface Pressure Gauge; (B) High Pressure Subsurface Sampler; (C) Recording Subsurface Thermometer

Recording Subsurface Thermometer—Designed to operate with the clock used with the 1¼-inch O.D. Subsurface Pressure gauge. Temperatures within fluid columns may be accurately measured to nearest ½ deg. F. Has a temperature range of 180 deg. and is ordinarily set up to operate from 60 deg. F. to 240 deg. F. Limits may be adjusted up or down to suit special conditions. It consists essentially of a mercury filled cylinder equipped with a piston operating through a packing gland against the tension of a helical spring. The extension of the piston is a measure of the expansion of the mercury which is in turn a measure of the increase in temperature. This extension is recorded on a chart carried in a clock driven drum containing within a section which is kept at atmospheric pressure. The mercury filled cylinder is enclosed by another pressure sealed outer case covering most of its length so that the pressure effect on the inner case will be obviated. The space between the cylinders is partially filled with mercury.

REPRESENTATIVES: W. G. Green, J. C. Carroll, R. P. Green, W. R. Coleman, S. A. Scherbatskey, John F. Purdom.

Keuffel & Esser Company

NEW YORK, N. Y.
Booths 19 and 65 Scientific and Technical Bldg.

EXHIBITS: Complete line of steel tapes. Surveying instruments and equipment. Drawing instruments and materials. Slide rules.

NEW PRODUCTS:

Whyteface "A" Steel Tapes developed for heavy duty, have raised black metal markings on a crack-proof white surface. Easy to read from any angle, even in dim light. This new construction provides resistance to abrasion. Shown in three models: Dallas "A" for gauging crude. Stevens Whyteface "A" for pipe inventory and general assignments. Oil Riggers Whyteface "A" derrick tape.

REPRESENTATIVES: R. E. Tasker, H. E. Bowman, Blan Bell, P. E. Wilcox.

The Gates Rubber Company

DENVER, COLORADO
Booths 56-57 California Bldg.

EXHIBIT: V-belts, V-belt pulleys. Complete V-belt drives. Industrial hose; oil field handling hose in particular. Molded rubber goods, with oil field applications.

REPRESENTATIVES: L. C. Doolittle, F. L. Craig and W. J. Noellsch, district managers; Frank Traver, manager molded rubber goods division; Dick Lamb, molded rubber goods sales; J. E. Moe and F. L. French, development engineers; R. J. Gentles, D. L. Kessler, Henry Page and Lee Witzenburg, of the industrial division.

FORT WORTH SPUDDER

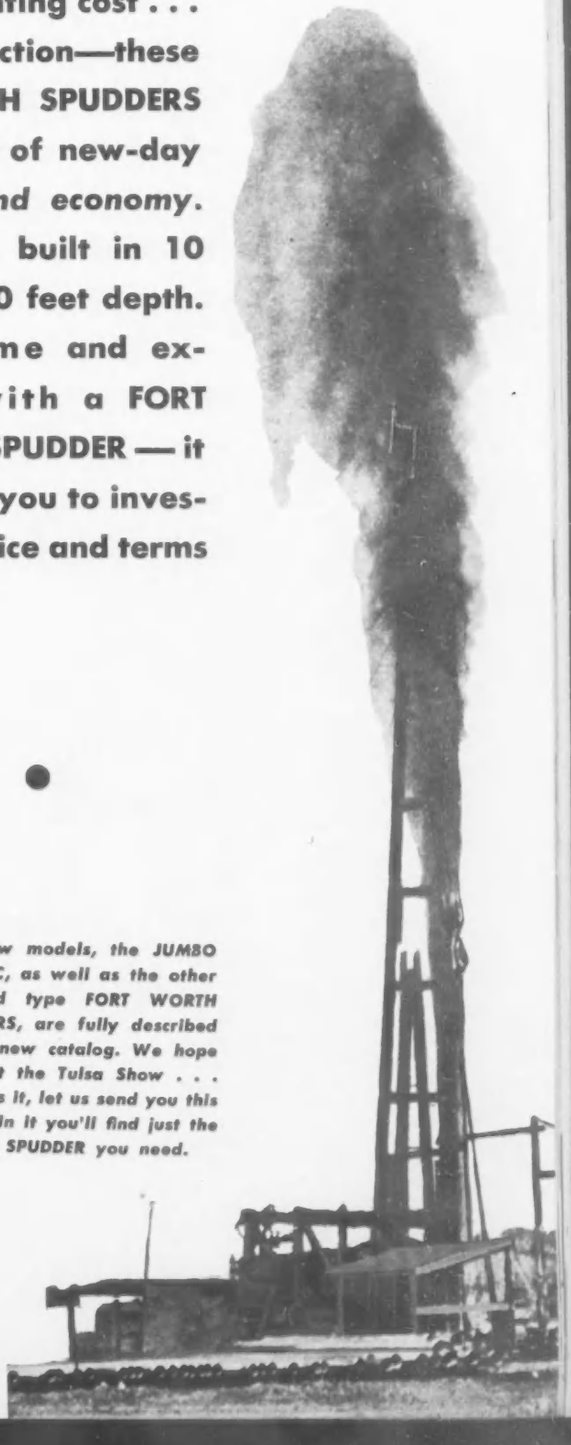
Fast drilling . . . low operating cost . . . easy to move . . . easy set-up for quick action—these are the things that make FORT WORTH SPUDDERS more popular today than ever. A host of new-day improvements give you *longer life and economy*.

Today's FORT WORTH SPUDDERS, built in 10 sizes, range in drilling capacity to 6,000 feet depth.

Save time and expense with a FORT WORTH SPUDDER — it will pay you to investigate price and terms *now*.

More Cable Capacity • Larger Brakes • Higher Masts • Super-Finished Parts • Ball and Roller Bearings on all high speed shafts • Better Lubrication . . . *and many other improvements*

Two new models, the JUMBO H and C, as well as the other oil-field type FORT WORTH SPUDDERS, are fully described in this new catalog. We hope to see you at the Tulsa Show . . . but if you miss it, let us send you this new catalog. In it you'll find just the FORT WORTH SPUDDER you need.



WELL MACHINERY & SUPPLY CO.

FORT WORTH, TEXAS

L. D. 55

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Mid-Continent Supply Company
FORT WORTH, TEXAS

Cummins Engine Company
COLUMBUS, INDIANA

American Car & Foundry Company
NEW YORK, N. Y.

Allis-Chalmers Mfg. Company
MILWAUKEE, WIS.

Bethlehem Steel Company
BETHLEHEM, PA.

Emsco Derrick & Equipment Company
LOS ANGELES, CALIF.

General Electric Company
SCHENECTADY, N. Y.

Helm Manufacturing Company
FORT WORTH, TEXAS

Hewitt Rubber Corporation
BUFFALO, N. Y.

Locomotive Finished Material Company
ATCHISON, KANSAS.

Ludlow Valve Manufacturing Company
TROY, N. Y.

Mid-Continent Pump Supply Company
TULSA, OKLAHOMA

Manheim Manufacturing Company
MANHEIM, PA.

Naylor Pipe Company
CHICAGO, ILL.

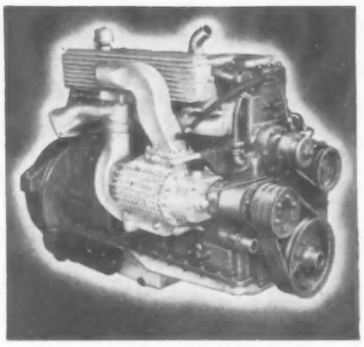
Perfex Radiator Company
MILWAUKEE, WIS.

Twin Disc Clutch Company
RACINE, WIS.

EXHIBIT: Cummins cold starting full Diesel Model HGA-601 General Electric Generating set, 50 kw. 3-phase, 60-cycle, alternating current, 1200 revolutions. Cummins cold starting full Diesel Model H-6-Cylinder Supercharged power unit. Cummins cold starting full diesel Model AMS 6-Cylinder supercharged marine engine with Twin Disc marine reverse gear. Cummins cold starting full diesel Model LIS 6-Cylinder 325 horsepower supercharged engine. Cummins cold starting full diesel Model LI 6-cylinder 7 x 10 inch engine, converted for and operating on natural gas. Cummins diesel gas conversion parts for above engines. Cummins cold starting full diesel Model A 4-cylinder package unit complete for installation in 1940 Ford trucks. Cummins cold starting full diesel Model A 6-cylinder automotive engine. Emsco D-38-TPM geared pumping unit, double reduction, twin crank, rated 7.75 horsepower at 20 strokes, 38,400 inch pounds peak torque at 20 strokes. Emsco D-58-TPM geared pumping unit, double reduction, twin crank, rated 11.71 horsepower at 20 strokes, 58,000 inch pounds peak torque at 20 strokes. Emsco 7¼ x 12 inch power slush pump with cast steel fluid end. Emsco 15½ x-8¼ x 20-inch steam slush pump with forged steel fluid end. Universal 7¼ x 16 power slush pump. Allis-Chalmers V-belt drives, sheaves and motors. Mid-Continent oil and gas detectors, fluoroscope and gas detector. Mid-Continent automatic relief valves for pipe lines. Mid-Continent-Pacific oil well pumps, complete and in cutaway models. Mid-Continent Electroloy and cast steel full opening swing check valves. Electroloy cylinders, pistons and Universal sectional piston rings. Bethlehem sucker rods and pull rods. Bethlehem oil country wire rope with patented "Uni-Zact" core. Naylor lockseam spiralweld line pipe and surface casing. A.C.F. full area lubricated plug valves. Ludlow gate valves and fire hydrants. Veelos interchangeable and detachable V belting. Hewitt super rotary hose and other mechanical rubber goods.

NEW PRODUCTS:

Cummins Model LIS Supercharged Diesel Engine—This Engine's 250 horsepower at 1000 revolutions has been boosted to 325 horsepower with a few mechanical changes and the supercharger. Overall dimensions are practically the same and the weight has not been increased appreciably. Like all Cummins diesels it operates on the four cycle principle, has the same bore and stroke as the standard models, and develops its maximum horsepower at standard engine speed. This is the latest addition to the supercharged Cummins diesels, three others also being on display, and is an exceptionally sturdy, heavy-duty diesel which weighs only 24 pounds per horsepower. It is particularly recommended for drilling operations. The fundamental principle of supercharging Cummins diesels is to put more air into each cylinder to make possible the burning of more fuel or more efficient burning of a given fuel charge on each power stroke. When either of these occur there is a corresponding increase in the volume of expanding gas, which increases the mean effective pressure or the average "push" on the piston over a longer period of time during its power stroke.



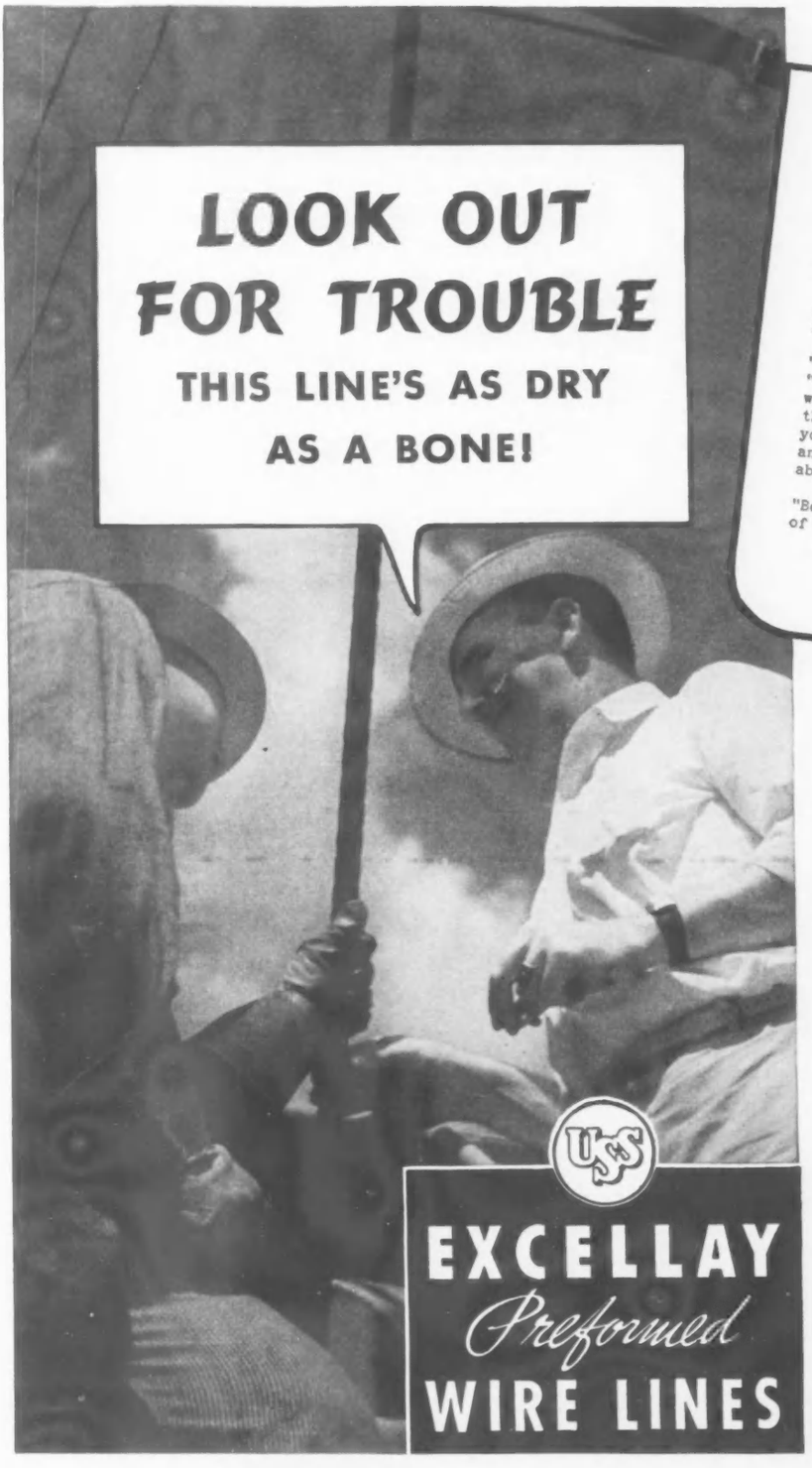
Cummins Model LIS-600 Supercharged Diesel

Mid-Continent Oil and Gas Detectors—Mid-Continent's fluoroscope and gas detector are two new devices which can be installed readily on any rig to give reliable and immediate information regarding the presence or absence of oil and gas in the formation being drilled.

REPRESENTATIVES: From Mid-Continent Supply Company: K. W. Davis, president; D. H. Thornbury, vice president; J. A. Daugherty, vice president; J. C. Halbert, secretary-treasurer; H. O. Powell, manager tubular division; F. John, purchasing agent; R. O. Moore, general merchandise manager; C. D. Helm, sales engineer; A. S. George, manager machinery department; T. M. Cone, designing engineer; F. J. Spurlock, sales manager; W. I. West, Houston district manager; H. McMurry, Houston store manager; A. L. Smith, sales engineer; F. E. Bruhn, sales engineer; H. H. Brown, Dallas local manager; F. R. Files, Houma store manager; D. S. Smith, Kermit store manager; C. R. Brooks, Kilgore store manager; G. H. Canterbury, Lake Charles store manager; R. L. McAnally, Lovington store manager; C. M. Fleeman, Magnolia store manager; R. C. Tucker, Odessa district manager; G. A. Knight, Odessa store manager; P. H. Edwards, sales engineer; G. A. Wead, Refugio store manager; G. W. Walters, Seagraves store manager; S. W. Backus, Shreveport district manager; H. P. Moore, Vanderbilt store manager; R. M. Flippo, Wichita Falls store manager; J. E. Everroad, Wichita store manager.

From Cummins Engine Company: C. L. Cummins, president; J. I. Miller, general manager; P. E. Letsinger, vice president; D. J. Buttles, sales manager; S. W. Curtiss, advertising manager; J. B. Chambers, manager Mid-Continent region.

From American Car & Foundry Com-



FROM THE DAILY REPORT OF A TIGER BRAND WIRE LINE ENGINEER

Was out on a job with Mr. Long this A.M. when I came across a wire line that was badly in need of lubrication. "Look out for trouble here," I told him, "this line's as dry as a bone."

He looked it over. "Looks okay to me," he said, "not much wear."

"That's just the point," I told him. "You can't see what goes on inside a wire line. When it's not lubricated, the external appearance may deceive you. The inside wires may be badly worn and corroded and even broken from abrasion and binding.

"Better give that line a good dose of lubricant if you want to save it."

Yours,
al

BY keeping your wire lines properly lubricated, you save money two ways: You protect the line from premature failure; and you reduce friction.

Proper lubrication is an effective deterrent to corrosion. It protects both inside and outside wires against destructive rusting. It keeps all wires free to slide over each other, as they must do when the line bends over sheaves and drums. It minimizes friction and wear between individual wires, and between the line and sheaves or guides through which it passes. It is the safest, surest method of preventing excessive wear inside the line, where you can't see it.

See that all wire lines are properly lubricated at regular intervals. Insure greater safety—prolong wire line life—reduce lost time—get the benefits of fewer replacements.

For specific recommendations on wire line lubricants and lubrication practice, see the Tiger Brand Wire Line Engineer who contacts you.

LOOK FOR THE TIGER
Buy wire lines from the distributor who displays this sign.

AMERICAN STEEL & WIRE COMPANY
Cleveland, Chicago and New York

COLUMBIA STEEL COMPANY
San Francisco

United States Steel Export Company, New York

UNITED STATES STEEL

pany: W. R. Kottsieper, assistant manager valve department; W. C. Mooney, sales engineer.

From Allis Chalmers Manufacturing Company: Ray Enters, W. A. Meyer, O. A. Haas, Tulsa district manager; D. M. McCargar, sales engineer.

From Bethlehem Steel Company: J. C. Miller, manager of sales; P. E. McKinney, metallurgical engineer; Chas. Ballard, manager wire rope sales; W. R. Shimer, metallurgical engineer; J. J. Lovell, sales engineer; J. E. Moore, Houston sales manager; C. B. Hinton, sales engineer; M. P. Leonard, sales engineer.

From Emsco Derrick & Equipment Company: George W. Walton, vice president; C. L. Lamkin, Houston plant manager; L. W. Stahl, chief engineer.

From Helm Manufacturing Company: A. C. Helm, president.

From Hewitt Rubber Corporation: L. D. Bigelow, vice president; Gene Burtner, sales engineer.

From The Locomotive Finished Material Company: H. E. Muchnic, president; A. H. Moorehead, sales manager.

From The Ludlow Valve Manufacturing Company: A. W. Thompson, vice president; R. B. Trow, Houston district manager.

From Mid-Continent Pump Supply Company: R. A. Dunbar, president; R. Van Matre, secretary-treasurer.

From Manheim Manufacturing Company: Stuart Gourley, sales manager, Vincent K. Alexander, Chicago branch manager; Frank Shafran, sales engineer.

From Naylor Pipe Company: E. W. Naylor, vice president; N. E. Turney, sales manager.

From Perfex Radiator Company: G. G. Holt, vice president.

From Twin Disc Clutch Company: G. M. Guilbert, vice president; J. B. Jenkins, Tulsa district manager.

American Bosch Corporation

SPRINGFIELD, MASSACHUSETTS
Booths 55-56 Texas Bldg.

EXHIBIT: Magnetos. Fuel injection equipment for Diesel engines. Ignition coils. Heavy-duty voltage regulated generators for trucks. Electric windshield wipers.

REPRESENTATIVES: A. C. Altree, sales manager Western Division; Charles T. Collins, sales engineer; F. J. Mackey, district manager; Irwin Hadland, district manager.

Oklahoma Rig & Supply Company

MUSKOGEE, OKLAHOMA
Booth 4 Oklahoma Bldg.

EXHIBIT: Hickory tool handles. Gage rods. Wire-bound boxes.

REPRESENTATIVE: S. D. Slaughter.

Black, Sivalls & Bryson, Inc.

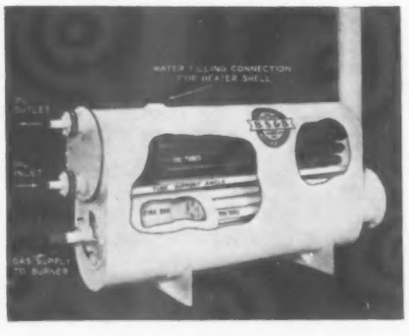
OKLAHOMA CITY, OKLAHOMA
Booths 39-40-65-66 California Bldg.

EXHIBIT: Model indirect heater. Model bolted tank. Model separator. Model bolted steel toolhouse. "Safwalk" walkway and stairway. Safety-head exhibit. An exhibit of a new type vent valve and thief hatches. An operating automatic chemical feeder. Various BS&B valves.

NEW PRODUCTS:

BS&B Indirect Heater is for high pressure fluids and gases. It was designed for water-bath heating of gas and oil, the gas heated fire tube section transferring heat to fresh water that surrounds and heats the fluid tubes. The heater is a complete unit consisting of a fire tube heating section and flow tube bundle heat exchanger, all enclosed in an obround outer shell. Temperature of the surrounding fresh water is automatically controlled. Compactness of the unit makes it highly portable. The flow tube bundle in the top of the shell is removable for inspection or replacement through the large flanged manhole over the firebox. Construction may be varied for standard pipe and return bends for ordinary heating conditions; cast iron pipe and return bends for corrosive conditions, and all-welded seamless steel pipe and tube turns for high pressure service.

BS&B Automatic Chemical Feeders—Recent refinements in design of older model chemical feeders have widened their scope of usefulness. They are now well suited to the injection of various liquids into pressure lines at oil wells, in water treating plants and in gas lines. They are especially recommended for injecting paraffin solvent into flow lines and tubing strings, and in injecting alcohol into gas lines ahead of pressure reducing devices to prevent freezing. They use a pressure gas source or compressed air as an operating medium. These feeders have a wide capacity range, from a minimum of ½ pint per 24 hours with a ¼-inch plunger, to a maximum of 400 gallons per 24 hours with a 2-inch plunger. Maximum injection pressure range is 13,000 pounds per square inch with a ¼-inch plunger to 280 pounds with a 2-inch plunger.



BS&B Indirect Heater

BS&B Automatic Chemical Feeder

BS&B Bottle-Tight Tank Valves—This new valve joint was designed to be absolutely pressure-tight to about 80 percent of its relieving pressure. It has been incorporated in all new BS&B thief valves and vent valves. Valve types employing this valve joint principle are: 8-inch round thief hatches, 8-inch by 22-inch oblong thief hatches, several sizes of horizontal through-type vent line valves, and several sizes of vertical vent line valves. These valves are made with both pressure and vacuum relief features. Pressure relief ranges are 2 to 16 ounces, and the vacuum relief is ½ ounce.

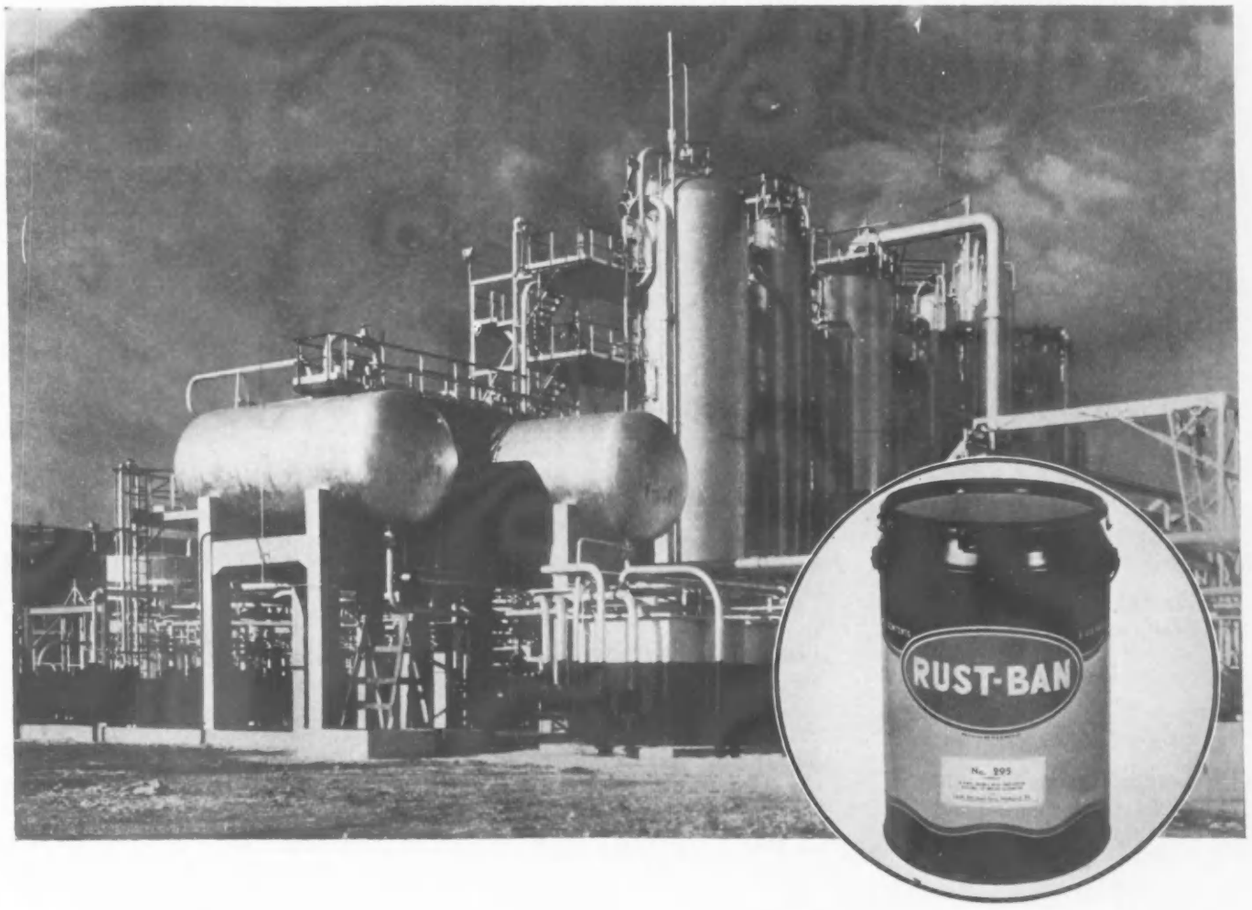
REPRESENTATIVES: A. J. Edwards, Don Torr, Ed Byers, E. E. Carter, G. Raymond, Jake Grubb, Marion Miller, Ralph Nichols, Gurney Peoples, Byron M. Hill, W. W. Mason, Verne Palmer, Flavy Powell, Hal Fessler, Ralph Stevens and Paul Hickman.

Chicago Bridge & Iron Company

CHICAGO, ILLINOIS
Booths 85-86 Texas Bldg.

EXHIBIT: Hortonspheroids. Hortonspheres. Wiggins pontoon roofs. Wiggins breather roofs. Wiggins balloon roofs. Wiggins balloon systems. Oil storage tanks. Refinery equipment.

REPRESENTATIVES: Milo E. Smith, advertising manager, Chicago; D. E. Larson, development engineer, Chicago; George E. Jewett, engineering department, Chicago; D. A. Leach, Tulsa office manager; H. B. Murphy, Dallas district sales manager, and J. R. Donaldson, Houston office manager.



Protection Assured

THE SURFACE PROTECTION

of refinery equipment against corrosion is a major problem as old as the oil industry itself. Actual experience in refineries has proved that with RUST-BAN,* this protection is assured.

RUST-BAN* is not a single product but the most complete line of rust preventives on the market. In the group of more than fifty products are included protective coatings for practically every service condition encountered in the oil industry. Your equipment needs and deserves the assured protection that RUST-BAN* affords. Write your marketer for detailed information.

*Registered U. S. Pat. Off. by Humble Oil & Refining Company.

★

***RUST-BAN* IS SOLD: In Texas by *Humble Oil & Refining Co.*, Houston, Texas. • In New York and New England by *Colonial Beacon Oil Co.* • In Pennsylvania by *Standard Oil Co. of Pennsylvania*, Philadelphia, Pennsylvania. • In New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina and South Carolina by *Standard Oil Company of New Jersey*, New York City. • In Oklahoma and Kansas and parts of Missouri by *The Carter Oil Company*, Tulsa, Oklahoma. • In Arkansas, Louisiana, Tennessee by *Standard Oil Company of Louisiana*, New Orleans, Louisiana. • In Kentucky, Georgia, Florida, Alabama, and Mississippi by *Standard Oil Company (Ky.)*, Louisville, Kentucky. • In other states by *Penola Inc.*, Pittsburgh, Pennsylvania • In Canada by *Imperial Oil Ltd.*, Toronto, Canada.**

United Supply & Manfacturing Company
TULSA, OKLAHOMA

American Hoist & Derrick Company
ST. PAUL, MINNESOTA

D. O. James Manufacturing Company
CHICAGO, ILLINOIS

A. Leschen & Sons Rope Company
ST. LOUIS, MISSOURI

E. M. Smith Company
LOS ANGELES, CALIFORNIA

Sterling Machinery Corporation
KANSAS CITY, MISSOURI

Titusville Iron Works
TITUSVILLE, PENNSYLVANIA

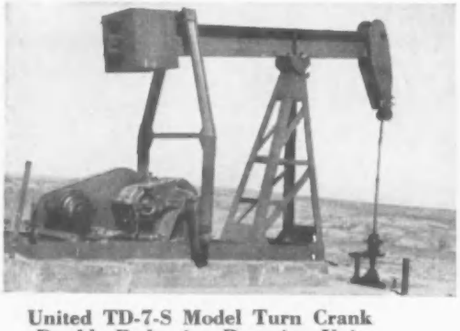
Union Chain and Manufacturing Company
SANDUSKY, OHIO
Southeast Side of California Bldg., Outside

EXHIBIT: American Hoist and Derrick Company's Crosby wire rope clips. D. O. James Mfg. Company's herringbone gear reducers. A. Leschen & Sons Rope Company's wire rope. E. M. Smith Company's rotary hose, tubing protectors and wire line guide. Sterling Machinery Company's centrifugal pumping units. Titusville Iron Works' vertical pumping units. Union Chain and Mfg. Company's rotary and industrial chains. United single and double reduction pumping units.

NEW PRODUCTS:

Twin Crank Double Reduction Pumping Units—These new units will be shown in four sizes. The TD-7-S model has an API walking beam capacity of 35,600 inch-pounds and a nominal horsepower of 7.2. Counterbalance is optional and can be had in the beam or rotary type, or a combination of both. Weights are provided in 100-pound sections. All units have fully equalized pitmans, and the wrist pin is equipped with Shaffer self-aligning roller bearings. The oil-bath center and equalizer bearings are of S. A. E. 64 bronze.

REPRESENTATIVES: H. B. Gutelius, F. P. Thieman, C. J. Halloran, Paul G. Lathrop, C. S. Herndon, A. W. Gibson, R. A. Chisholm, L. E. Wiley, H. W. Denton and L. L. Hall.



United TD-7-S Model Turn Crank Double Reduction Pumping Unit

Nathan Manufacturing Company
NEW YORK, NEW YORK
Booth 25 Kansas Bldg.

EXHIBIT: Mechanical lubricators. Oil cups. Fusible boiler-drop plugs. Liquid-level tank gauges.

REPRESENTATIVE: W. E. Wollheim, manager industrial division.

Alten's Foundry & Machine Works
LANCASTER, OHIO
Block 7, Outside

EXHIBIT: Pumping units. Underpull pumping jacks. Flexible stuffing boxes. Cloverleaf pattern stuffing boxes. Stop cocks. Essex lock cocks. Check valves. Paraffin scrapers. Polished rod clamps.

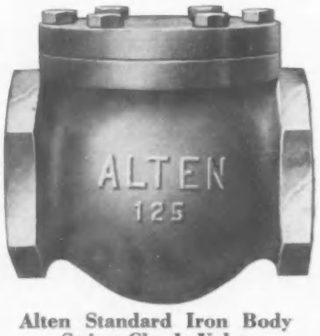
NEW PRODUCTS:

Alten Paraffin Scraper is designed to scrape paraffin from the inside of tubing in a pumping well. The diamond

Alten Paraffin Scraper

and half-diamond designs have a sharp cutting edge, and are slightly undercut at the bottom to break up the paraffin. Spiral flutes are of sufficient width and depth to permit the passage of fluid as well as the broken up particles of paraffin.

Alten Standard Iron Body Swing Check Valve is for use in hot or cold water, steam, or oil service. Valves, brackets, arms, and pins are of corrosion-resistant bronze.



Alten Standard Iron Body Swing Check Valve

REPRESENTATIVES: Henry A. Winland, Charles L. Spilman, E. G. Sweeney, Merle R. Ruff, C. R. Stahl, A. C. Mueller, Dalton Bergan.

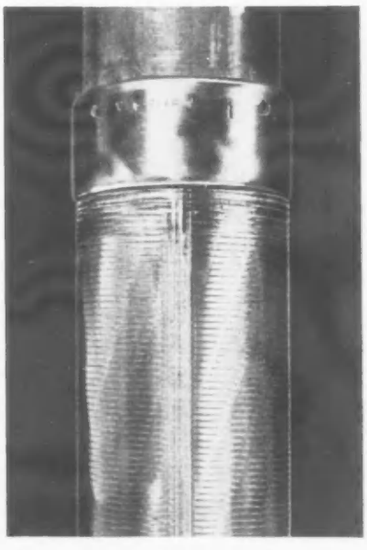
Security Engineering Company
WHITTIER, CALIFORNIA
Booths 71-72 Scientific & Technical Bldg.

EXHIBIT: Sievers reamers and Security drilling products. New modern well completion and testing techniques, as applied to Drillable Securaloy, will be demonstrated and a complete line of Securaloy drillable packers, liners, screens, pipe and accessories will be exhibited. Also included are the Security left-hand releasing tool, delayed action packer setting tool, feeler tool attachments and other products.

NEW PRODUCTS:

Security Wire-Wrapped Drillable Screen Liner—This new product has the desirable features of wire-wrapped screen plus Securaloy's drillability.

REPRESENTATIVES: W. E. Sievers, vice president; Al Forrow, general sales manager; Bart Gillespie, manager export department; Ralph Graham, engineering department; and Bob Gollum of Security's Centralia, Illinois, branch.



Security Drillable Wire-Wrapped Screen Liner

Warner Lewis Company
TULSA, OKLAHOMA
Booth 4 Kansas Bldg.

EXHIBITS: Chicago metal hose. Lew-Nel submerged pump. Miscellaneous oil equipment.

REPRESENTATIVES: Warner Lewis, R. W. Miller, J. P. Cox, Jr.

Let the NORVELL-WILDER organization SERVE YOU

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NORVELL-WILDER *STORES AT*

BEAUMONT, TEXAS
HOUSTON, TEXAS
FT. WORTH, TEXAS
CORPUS CHRISTI, TEXAS
MONAHANS, TEXAS
CONROE, TEXAS
SHREVEPORT, LA.
LAKE CHARLES, LA.

OFFICES:
DALLAS, TEXAS
TULSA, OKLAHOMA

Serving the Oil Industry for 30 Years

NORVELL-WILDER SUPPLY COMPANY

NORVELL-WILDER WAREHOUSE AT BEAUMONT

Norvell-Wilder Warehouse at Lake Charles, La.

Norvell-Wilder Warehouse at Monahans

Both THE OIL-EQUIPMENT USER and the MANUFACTURER *benefit*

through adequate Supply-House distribution

Norvell-Wilder Warehouse at Corpus Christi

Norvell-Wilder Warehouse at Ft. Worth

NORVELL-WILDER WAREHOUSE AT HOUSTON

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E. M. Smith Company
LOS ANGELES, CALIFORNIA

Sterling Machinery Corporation
KANSAS CITY, MISSOURI

Titusville Iron Works
TITUSVILLE, PENNSYLVANIA

Union Chain and Manufacturing Company
SANDUSKY, OHIO
Southeast Side of California Bldg., Outside

EXHIBIT: American Hoist and Derrick Company's Crosby wire rope clips. D. O. James Mfg. Company's herringbone gear reducers. A. Leschen & Sons Rope Company's wire rope. E. M. Smith Company's rotary hose, tubing protectors and wire line guide. Sterling Machinery Company's centrifugal pumping units. Titusville Iron Works' vertical pumping units. Union Chain and Mfg. Company's rotary and industrial chains. United single and double reduction pumping units.

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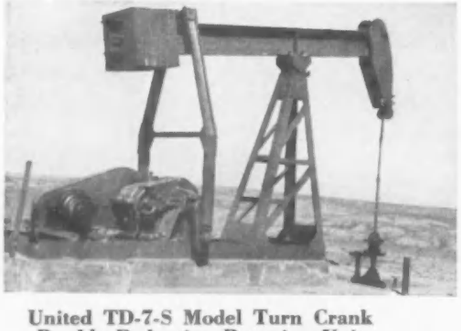

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Booth 25 Kansas Bldg.

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LANCASTER, OHIO
Block 7, Outside

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Alten Standard Iron Body Swing Check Valve

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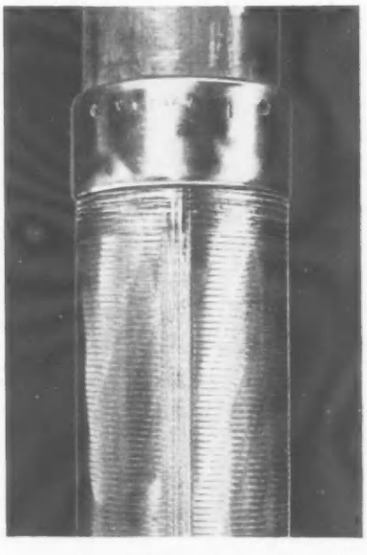

Security Drillable Wire-Wrapped Screen Liner

Warner Lewis Company
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Booth 4 Kansas Bldg.

EXHIBITS: Chicago metal hose. Lew-Nel submerged pump. Miscellaneous oil equipment.

REPRESENTATIVES: Warner Lewis, R. W. Miller, J. P. Cox, Jr.

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NORVELL-WILDER WAREHOUSE AT HOUSTON

Larkin Packer Company

ST. LOUIS, MISSOURI
Booths 111-112 Oklahoma Bldg.

EXHIBIT: Zin-cote swage nipples and bull plugs. Float equipment. Casing centralizers. Spiders and clamps. Casing and tubing heads. Packers and sand pumps.

NEW PRODUCTS:

Zin-cote Swage Nipples and Bull Plugs—A new protective coating, designated Zin-cote, to prevent corrosion, assure a free-running thread, and to withstand service without peeling or chipping. The coating is applied by an electrolytic galvanizing process.

Zin-cote Swage Nipples and Bull Plugs

Larkin Casing Centralizer — This device, consisting of four 18-inch arched steel springs supported by two seamless steel bands, is designed to slide over the casing and lock in place with two set screws. Used above the shoe, it centers the casing in the hole to provide a uniform annular space for perfect cement distribution around the shoe and casing.

Larkin Casing Centralizer

Larkin Forged-Steel Tubing Head features a forged steel body with forged outlets, parts of high-grade steel parts, an oil- and wear-resistant Neoprene stripper, and heavy construction. It is available in six types, Model SR with Neoprene stripper and slip-type suspension for flowing wells; Model R, slip type for pumping wells; Model SRS with slip suspension, tubing stripper and top safety thread; Model M with mandril suspension; Model FR, flanged top with slip suspension, and Model FM, flanged top with mandril suspension. All types are mutually convertible in the field, allowing use of threaded or flanged connections with any feature, such as mandril or slip suspension with or without the stripper. The head is regularly furnished to suit 5½-inch, 6-inch, 6⅝-inch or 7-inch OD casing,

Larkin Forged-Steel Tubing Head

for use with 2-inch, 2½-inch or 3-inch regular or upset tubing, and can be furnished with outlets ranging from 2- to 4-inch standard, as desired.

Larkin Hook Wall Pumping Packer

Larkin Hook Wall Pumping Packer has a slip and spring arrangement controlled by a locking keyway designed to facilitate running in, speed up setting, and make pulling and resetting easy without removing packer from the hole. The rubber, made of Neoprene, is described as oil-resistant and will not vulcanize to the inside of the casing, permitting pulling and rerunning many times without destroying the packing element. A control head top for gas or fluid escape, or for use with gas lift equipment, is available.

Larkin Simplex Sand Pump has an extra long heavy plunger, smooth throughout its entire length to assure quick falling on the down stroke. Designed with no grooves to accumulate sand, the tendency to stick and jam is reduced to a minimum. A new removable stinger or socket has been adopted to eliminate the danger of babbitting close to the well. The stinger and top disconnect completely from the heavy tube and may be carried about as desired. When frequent movings are necessary, the top and stinger may be unscrewed and made up into the pump body as often as necessary, eliminating cutting and rebabbitting the wire line in many instances. The pump is furnished in all standard sizes from 2½ to 9 inches. It is constructed of steel throughout, and is available with a medium or heavy tube of seamless cold-drawn steel. Pump bottoms are made in regular, bit and bailer types.

REPRESENTATIVES: J. J. Larkin, Sr., W. H. Larkin, J. J. Larkin, Jr., C. F. Dougherty, W. H. Adamson, H. S. Lindenmuth, T. E. Alexander, R. A. Tiemann and E. O. Kuettner.

Milburn Company

DETROIT, MICHIGAN
Booth 28 Oklahoma Bldg.

EXHIBIT: Creams and ointment for prevention of skin diseases and skin irritations of occupational and industrial origin. Dispens-eze salt-tablet dispenser.

NEW PRODUCTS:

Dispens-eze Salt-Tablet Dispenser, of plated aluminum, has a capacity of more than 1000 10- or 15-grain tablets. It is described as moisture-proof, of heavy construction with a Yale lock that locks it to the wall bracket.

Ply Ointment is available in different prescription for the specific hazard to be combated, including oils, acids, poison ivy and sunburn.

REPRESENTATIVE: S. A. Tomane.

The S. M. Jones Company

TOLEDO, OHIO
Booths 18-19 Oklahoma Bldg.

EXHIBIT: Sucker rods and well study equipment. Jones-Staggs intermitter.

NEW PRODUCTS:

Jones-Staggs Intermitter features simplicity in design and operation. Simple, positive control is accomplished with the surface equipment, which is all carried on a light weight four-foot jack. The patented intermitter valve, which is the poppet type, is operated by surface equipment and is designed for long service and low gas/oil ratios. The valve, not in the flow stream, is simple, sturdy and positive with gas always on both sides. It is operated by lifting and lowering of weight bar—gravity does the work. By the use of a simple valve extension pipe, gas is in-

Jones-Staggs Intermitter

troduced at any desired place below the packer even just off bottom.

REPRESENTATIVES: P. C. Jones, president; D. R. Dale, chief engineer; H. K. Browning, sales manager; L. J. Pundt, division manager; D. O. Johnson, manager field engineering department.

Baker Oil Tools, Inc.

LOS ANGELES, CALIFORNIA
Booths 99-100-101-102 Oklahoma Bldg.

EXHIBIT: Complete line of Baker cement guiding, floating and cementing equipment featuring Wash-Down Whirler Shoes. Cement Hook-Ups featuring Baker Metal "Petal" Baskets and Baker Cement Whirler Float Collar with Solid Bottom Baffle with Metal "Petal" Basket. Baker Cement Retainer with Circulation Joint. Baker Wire Line Bridge Plug. Baker Rotary Hydraulic Expansion Wall Scraper and Wall Sampler. Baker Standard Cable Tool Core Barrel. Baker Bakwik Drill Pipe Floats. Baker Portable Hydraulic Kelly and Pipe Straightener. The Baker Regular Cement Wash-Down Whirler Float Shoe will be demonstrated by a cut-away section and a model showing its whirler action.

NEW PRODUCTS:

Baker Retainer Production Packers—This new packer which has been developed to pack-off between two production horizons and produce them separately is designed to meet any condition encountered in multiple zone production. Three types are furnished—the Packing Head Seal Type, the Continuous Double Seal Type and the Continuous Single Seal Type—so as to meet any specific conditions encountered. One of these will be demonstrated with a cut-away model together with the Setting Tool used for setting the Packer in the well. Features of the Packers include provision for raising and lowering the tubing to regulate gas/oil ratios, for cleaning out sand, for washing over and for swabbing in different zones. One packer is used for segregating production from two zones and two Packers for keeping separate the production from three zones.

Baker Retainer Production Packer

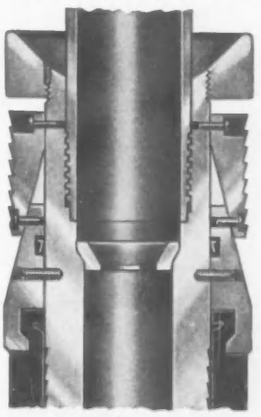
Auxiliary Equipment for Baker Model "K" Cement Retainer—Several new units have been developed to assist the performance of the Cement Retainer under specific unsual or adverse conditions and to provide greater facility, increased assurance of successful operation or definite economy when such conditions are encountered.

Baker Junk Pusher

Junk Pusher for Model "K" Cement Retainer—This unit is designed to catch and push junk or debris ahead of the Cement Retainer as it is being lowered in the well and thus reduces hazard of prematurely tripping the Retainer due to foreign material fouling the slips. The Junk Pusher is screwed to the Tail Pipe Connection and has a rubber sleeve or scraper which scrapes all debris toward the inside and collects it in the Junk Pusher. Slotted portions of the Pusher allow fluid to by-pass freely but prevent the passage of the debris. An internal screen in the upper end keeps the debris from passing upwardly into the body of the Retainer. When the Retainer is set, the screen is sheared off and drops down and out through the bottom of the Junk Pusher to provide open passage-way for circulating or cementing.

Baker Auxiliary Tripping Ball Seat Unit

Auxiliary Tripping Ball Seat Unit With Auxiliary Tripping Ball for Model "K" Cement Retainer is attached to the threaded connection at the bottom of the Cement Retainer and provides a means of tripping the Retainer with the Auxiliary Tripping Ball without releasing the Ball Back-Pressure Valve. Fluid can then be passed in either direction through the Retainer (after it has been set and packed off) until it is to be used in the usual manner for cementing or as a Casing Bridge Plug. This allows application of pressure intermittently to the formation while maintaining circulation in either direction; permits the well to be flowed back through the Retainer; or provides for a swabbing operation. When the fluid passageway through the Retainer is no longer needed, the Ball Back-Pressure Valve is released by the regular Tripping Ball and the Retainer functions in the regular manner.



Baker Auxiliary Bridging Ball Seat

Auxiliary Bridging Ball Seat for Baker Model "K" Cement Retainer—Lack of a larger size tubing string sometimes necessitates the use of 2-inch tubing for running 3A, and larger, Cement Retainers and this unit provides a Bridging Ball Seat of reduced diameter to accommodate the smaller (1-7/16-inch) Bridging Ball which must then be used. The 2½-inch tubing, normally used to run 3A and larger Cement Retainers, will pass the regular 2⅛-inch diameter Bridging Ball without difficulty.

REPRESENTATIVES: T. Sutter, vice-president and general manager; C. E. Burt, chief engineer; R. C. Baker, Jr.; C. E. Whitney, manager Houston Division; P. V. McGivern; L. L. Watkins; E. F. Hannon; H. F. Harper; Paul David; Joe Chastain; and J. W. Burkhart.

Shrunk on for

16″ GUN JACKET BEING SHRUNK ON TO A 16″ GUN FOR GREATER SAFETY

(Circle)

16″ Gun Jacket being lowered in a pit and HEATED TO BE EXPANDED to fit Gun.

(Large Photo)

16″ Gun being taken out of pit where jacket has been cooled by water and ALLOWED TO SHRINK, making a tight fit.

COURTESY, ORDNANCE DEPARTMENT, U. S. ARMY

P. O. BOX 2119

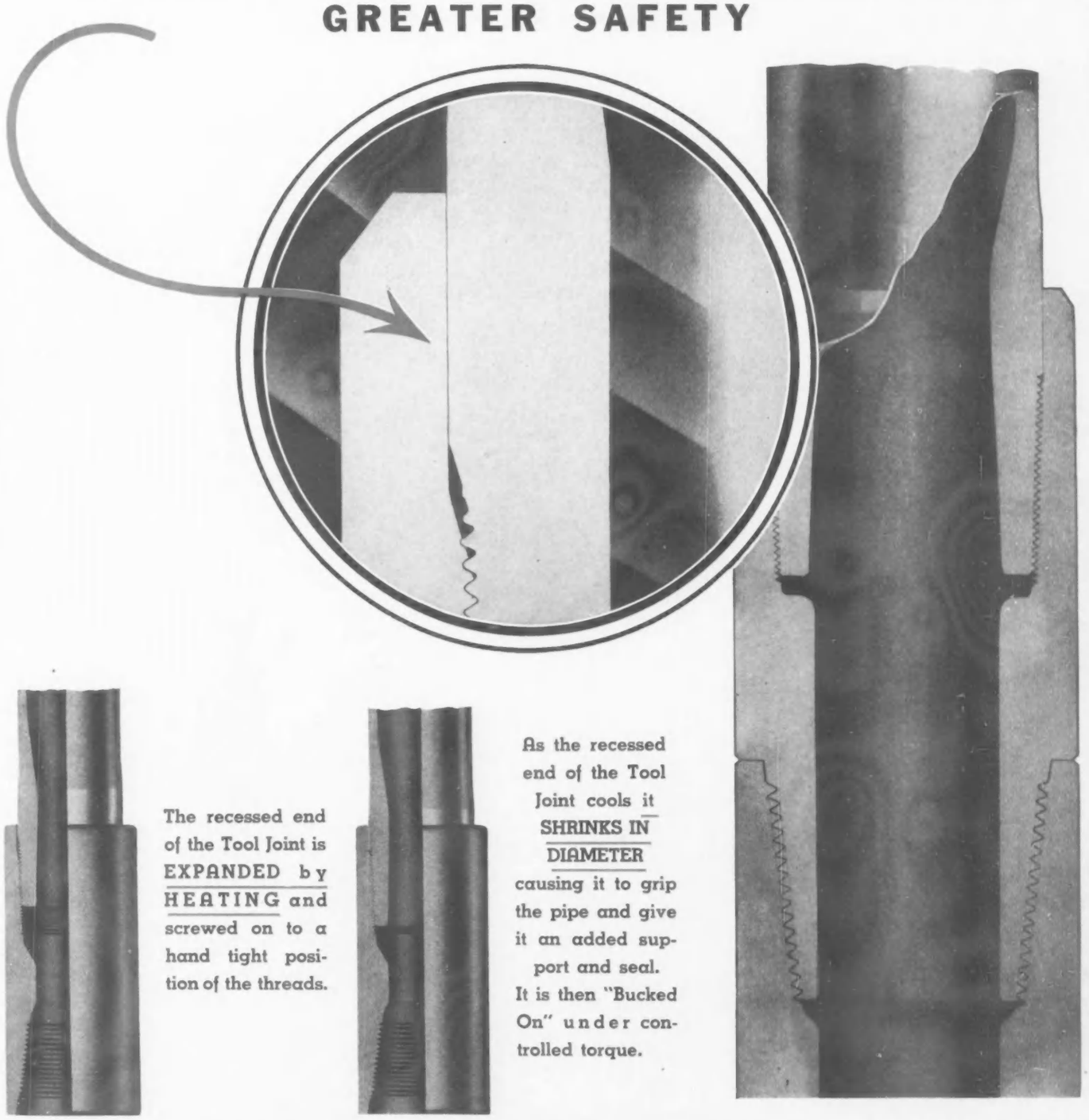
REED ROLLER

GULF COAST, MID-CONTINENT, AND ROCKY MOUNTAIN

Maximum Safety

REED SHRINK GRIP TOOL JOINTS

HAVE AN ADDED SUPPORT SHRUNK ONTO THE DRILL PIPE FOR GREATER SAFETY



The recessed end of the Tool Joint is EXPANDED by HEATING and screwed on to a hand tight position of the threads.

As the recessed end of the Tool Joint cools it SHRINKS IN DIAMETER causing it to grip the pipe and give it an added support and seal. It is then "Bucked On" under controlled torque.

BIT COMPANY HOUSTON, TEXAS

DISTRIBUTORS FOR MARTIN-DECKER PRODUCTS

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Walworth Company

NEW YORK, N. Y.
Booths 103-108 Oklahoma Bldg.

EXHIBITS: Christmas tree assembled with Walworth cast steel flanged end lubricated plug valves. Christmas tree assembled with Walworth Type 85 cast steel flanged end gate valves. Walworth lubricated plug valves. Cast steel gate and globe valves and fittings in Series 150-1500 inclusive, for hot oil service. 350-pound WSP bronze globe and check valves for feed water service. 350-pound WSP-750F cast steel globe, angle, check and gate valves for steam line service. Pipe wrenches. Stillson wrenches. Parmelee pipe line wrenches.

REPRESENTATIVES: W. B. Holton, president; Howard Coonley, chairman; J. M. Olmsted, vice president of sales; F. H. Morehead, vice president of engineering; F. W. Duemler, vice president of sales; C. L. Bradbury, manager, Dallas, office; E. L. Clark, field sales; O. Evans Duemler, sales engineer; C. G. Finkle, manager, Houston office; R. J. Glasscock, field sales; L. F. Lamberty, field sales; F. S. Markle, field sales; H. C. Nannen, refinery sales; J. L. Rice, field sales; W. H. Weber, sales engineer; J. G. Youngren, field sales; E. B. Marrs, field sales; H. G. Lambert, assistant manager, tool division.

Marmon-Herrington Company, Inc.

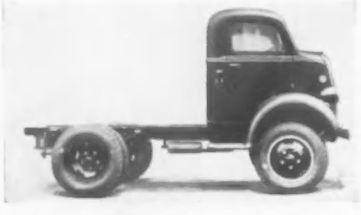
INDIANAPOLIS, IND.
Block W Outside

EXHIBIT: Varied line of all-wheel drive vehicles. In addition to several standard 1940 models of Marmon-Herrington all-wheel-drive Fords, the display includes a special all-wheel-drive Ford Marsh Buggy, a speedy rubber-tired track laying tractor, a new all-wheel-drive cab-over-engine Ford, a stripped chassis with standard Ford and Marmon-Herrington conversion parts painted in contrasting colors, cut-away working models of Marmon-Herrington auxiliary transmission, constant velocity joint steering ends, etc.

NEW PRODUCTS:

All-Wheel-Drive Cab-Over-Engine Ford—An entirely new conversion to all-wheel-drive of a 110-inch wheelbase "Cab-Over-Engine" Ford.

All-Wheel-Drive Ford Marsh Buggy is equipped with single front dual rear 13.50 x 24.6 tires.



Marmon-Herrington All-Wheel Drive Cab-Over-Engine Ford

Marmon-Herrington All-Wheel Drive Ford

REPRESENTATIVES: A. W. Herrington, president; C. Alfred Campbell, general sales director; Harold L. Fisher and Ray N. Schmeltz, sales and service engineers. R. L. Skidmore, representative; and representatives of Adams Motor Company of Tulsa.

Templeton, Kenly & Company

CHICAGO, ILLINOIS
Booths 42-43 Texas Bldg.

EXHIBIT: Model 522 emergency jack. Model 440 double-chain worm gear pull rod jack. Simplex adjustable supports for field boilers. Util-A-Tool for clamping parts to be welded, tensioning, bending pipe or straightening bent structural members, pulling wheels, gears and pulleys.

NEW PRODUCTS:

Model 522 Emergency Jack is of rated 5-ton capacity; tilts on its base to permit jacking at an angle; has double-lever socket for close quarter operation; lifts on the cap, on the corrugated toe, the auxiliary shoe which engages in a recess in the cap or at any intermediate point by using a 4½-foot 7/16-inch chain fitted with grab hook. It has a lift of 14 inches and weighs 64 pounds complete. It is designed for rigging, pulling casing, shoving, skidding, pulling and for jacking mired trucks and lifting line pipe.

Model 440 Pull Rod Jack has a crank designed for fast repair of broken deep well pull rods. It is described as needing only one man for operation, as having improved one-piece slips that are easily applied and removed, and an enclosed worm-gear mechanism to guard against dust and dirt.

REPRESENTATIVES: J. B. Templeton, president; P. H. McManus, W. C. Cornu and Bill Kreier.

Visco Products Company

HOUSTON, TEXAS
Booth 73 Kansas Bldg.

EXHIBIT: Oil-treating chemicals.

REPRESENTATIVES: Homer T. Lamb, Jr., George B. Turner, Chas. Nelson, V. C. Bowman, O. B. Schoenfeld, Jr., W. H. Kirkpatrick, F. H. Thorne and C. F. Spangler.

The Foxboro Company

FOXBORO, MASSACHUSETTS
Booths 3-4-5 Scientific and Technical Bldg.

EXHIBITS: Complete line of instruments for the measurement and control of refineries and gasoline plants, and oil production.

REPRESENTATIVES: T. B. Burris, J. B. McMahon, R. A. Bristol, E. E. Kleir, H. G. Griffith, L. W. Parten, E. L. Stark, C. E. Mason, M. A. Schreiner, J. J. Burnett, E. R. Huckman, E. A. Thomas, J. Heinzerling.

Justrite Manufacturing Company

CHICAGO, ILLINOIS
Booth 17 Scientific & Technical Bldg.

EXHIBIT: Justrite "Twin-Bulb" safety lanterns. Other types "Twin-Bulb" electric lanterns. Non-explosive safety cans. Oily waste cans. Safety filling cans.

NEW PRODUCTS:

Justrite "All-Purpose" Safety Electric Lantern—Designed for use in gas-filled areas and other places where fire risk is great. Approved for safety in methane and air mixtures by the U. S. Bureau of Mines and Underwriters' Laboratories, Inc. Lantern has two bulbs always

Justrite All-Purpose Safety Electric Lantern

available. Throwing a switch restores the light. The lighted bulb is always at the center of the reflector, giving light to all sides through a range of 200 degrees and a powerful forward beam. Light can be pointed in any direction desired. Base and handle may be turned completely around lantern body. Globe of fire-polished glass, sealed over the reflector and bulbs. Lantern is 6½ inches wide and 11 inches high overall. Body is 21 gauge steel, cadmium plated. Handle is aluminum tubing.

George E. Failing Supply Company

ENID, OKLAHOMA
Outside, Hall of Science Way

EXHIBIT: Failing "Holemaster 1000" shothole drill unit. Failing "66" slim hole portable drill unit.

NEW PRODUCTS:

Failing "Holemaster 1000" Shothole Drill Unit is a new rugged shot hole drill for tough drilling. Medium in weight, it incorporates the use of an accessible table for easy handling of drill pipe and casing, it is equipped with double free-spooling drums, a new and faster hydraulic feed, V-belt drives for the rotary table, and a combination

Failing Holemaster 1000 Shothole Drill Unit

hydraulic with pressure or weight feed. The table is equipped with large anti-friction bearings throughout and has a 5⅜-inch opening. The entire drill is powered from the truck motor through a Failing heavy-duty power take-off capable of transmitting the entire torque output of the truck motor. The mast is built from seamless alloy steel tubing, electric welded throughout. Standard equipment includes a 4 x 5 mud pump and the drill is designed for mounting on a 1½-ton truck of popular make but is available on crawler type tractor or skid.

Failing "66" Slim Hole Drilling Rig with a capacity for 4000-foot drilling features maximum portability without excessive weight. Standard equipment includes a 60-foot tubular mast constructed from seamless alloy steel tubing with safety hydraulic raising system. However, a 90-foot mast is available on special order. Gears and sprockets are made from nickel alloy steels and heat

Failing 66 Slim Hole Drilling Rig

treated for maximum strength and long life. The table has a 12¾-inch opening and has spiral cut heat-treated bevel gears operating in an oil bath. Engineered for safety in design and quiet operation.

REPRESENTATIVES: George E. Failing, J. C. Failing, T. E. Failing, W. T. Caldwell, R. M. Greer, E. L. Alexander, W. J. Kirby, Al Braithwaite, C. F. Keller, W. H. Van Valkenberg and Pat M. Holden.

Merco Nordstrom Valve Company

PITTSBURGH, PENNSYLVANIA
Booths 35-36-37-38 Scientific and Technical Bldg.

EXHIBITS: Nordstrom valves in the standard, Emco-Nordstrom and Hyperseal type will be displayed with cut-open samples available to simplify the explanation of the operating principles. A Christmas tree, 100% equipped with Nordstrom valves will be shown also.

NEW PRODUCTS:

Hyperseal Round Opening Production Valve—A.P.I. standard production valve for 7500 pounds working pressure.

Nordstrom Gauge Cock for 2000 pounds working pressure.

REPRESENTATIVES: Col. W. F. Rockwell, president; Capt. A. E. Higgins, vice president and sales manager; A. J. Kerr, district manager; R. R. Bush, J. E. B. Sundy, Tom Stacy, T. R. Van Arsdale, J. S. Coltrell, F. N. Dillman, O. W. Barnett, W. R. McLaughlin, D. D. Collins, C. K. Madison, C. E. Baird.

Timken Roller Bearing Company

CANTON, OHIO
Booths 12-15 Texas Bldg.

EXHIBIT: Timken bearings.

REPRESENTATIVES: H. H. Timken, Jr., vice president; W. B. Moore, general manager Steel and Tube Division; C. H. McCollam, assistant general manager, Steel and Tube Division; Dr. C. L. Clark, Steel and Tube Division; W. G. Hildorf, metallurgist, Steel and Tube Division; D. S. Klippert, sales engineer, Steel and Tube Division; S. C. Partridge, general manager, Industrial Division; H. W. Trump, district manager, Dallas office Industrial Division; S. M. Weckstein, chief engineer, Industrial Division; W. F. Anderson, district manager, St. Louis office, Industrial Division; Fred Reiser, Jr., sales engineer, Pittsburgh office, Industrial Division; F. R. MacFadyen, sales engineer, Houston office, Industrial Division.

LubriKup Company

WILLIAMSPORT, PENNSYLVANIA
Booth 184 Oklahoma Bldg.

EXHIBIT: Valve cups. JerkerKups. Seat Cups. Seat Rings. Repacks. Resistoil rings.

REPRESENTATIVES: I. G. Batdorff, W. M. Connor, M. L. Frazier, C. S. Vogel, W. P. Wood and R. R. Wynne.

Watson Automotive Equipment Company

WASHINGTON, D. C.
Booths 2, 3 California Bldg.

EXHIBITS: Traction devices for dual tired vehicles.

NEW PRODUCTS:

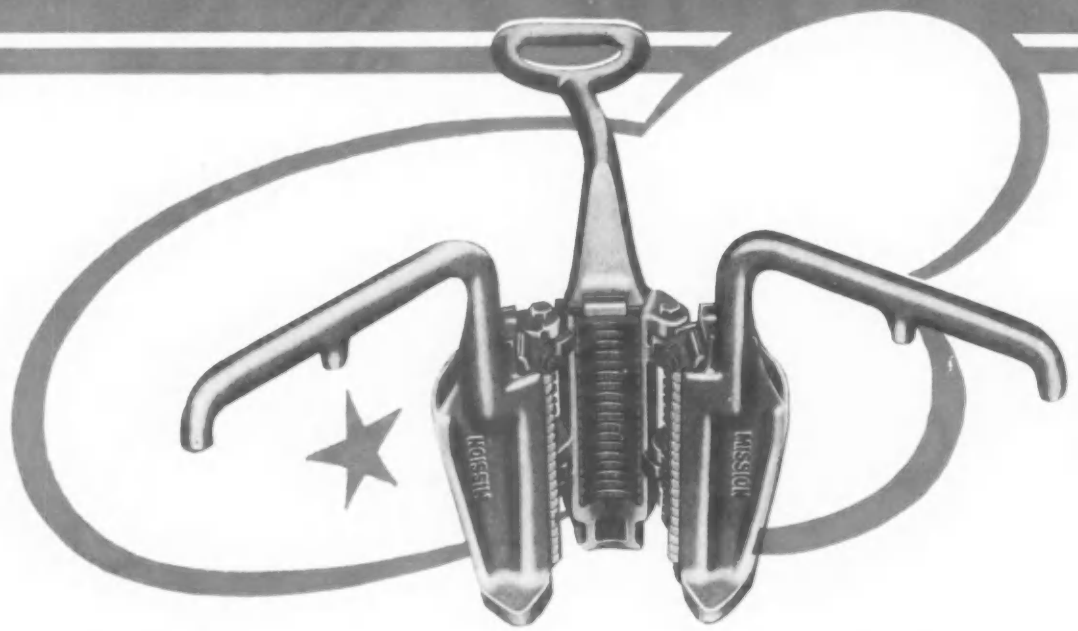
Galanot-Watson Tyr Tracs—Converts pneumatic tired vehicle into a track-laying vehicle. As readily installed and removed as tire chains. Provide both ground surface coverage and traction to get through mud or bog. Adapted to run on two wheel, four wheel, and six wheel drive trucks. They are carried along just like chains.

REPRESENTATIVES: J. A. Watson, Jr., B. B. Cain and C. P. Galanot.

Galanot-Watson Tyr Tracs

MISSION

★ROLLING DOG ROTARY SLIPS

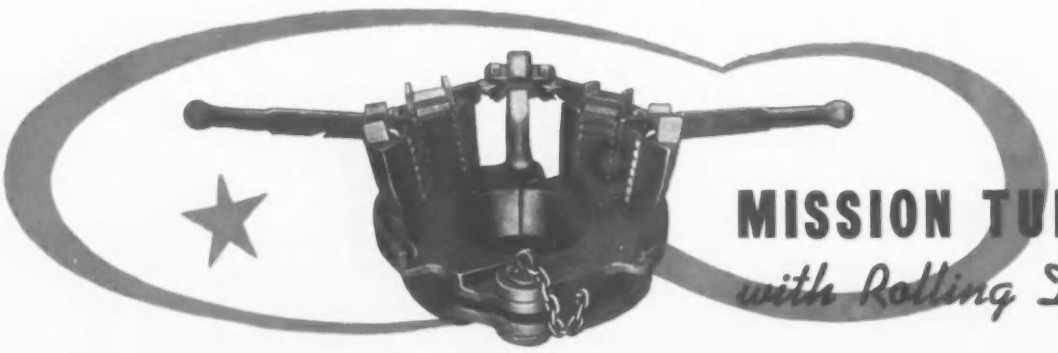


MISSION Rolling Dog SLIPS speed up round trips. The dogs roll away from the pipe as it is lifted, assuring **instant release.**

MISSION Rolling Dog SLIPS protect the pipe. The dogs roll into the pipe, giving a gradual cushioning grip. Their uniform size distributes the load equally.

●

Be sure to specify MISSION Rolling Dog SLIPS . . . the standard of comparison . . . IN EVERY OIL COUNTRY



MISSION TUBING SPIDERS
with Rolling Dog Slips

MISSION PRODUCTS ARE ALWAYS AT YOUR COMMAND
THROUGH SUPPLY STORES EVERYWHERE
PHONE . . . . WRITE . . . . WIRE YOUR SUPPLY STORE

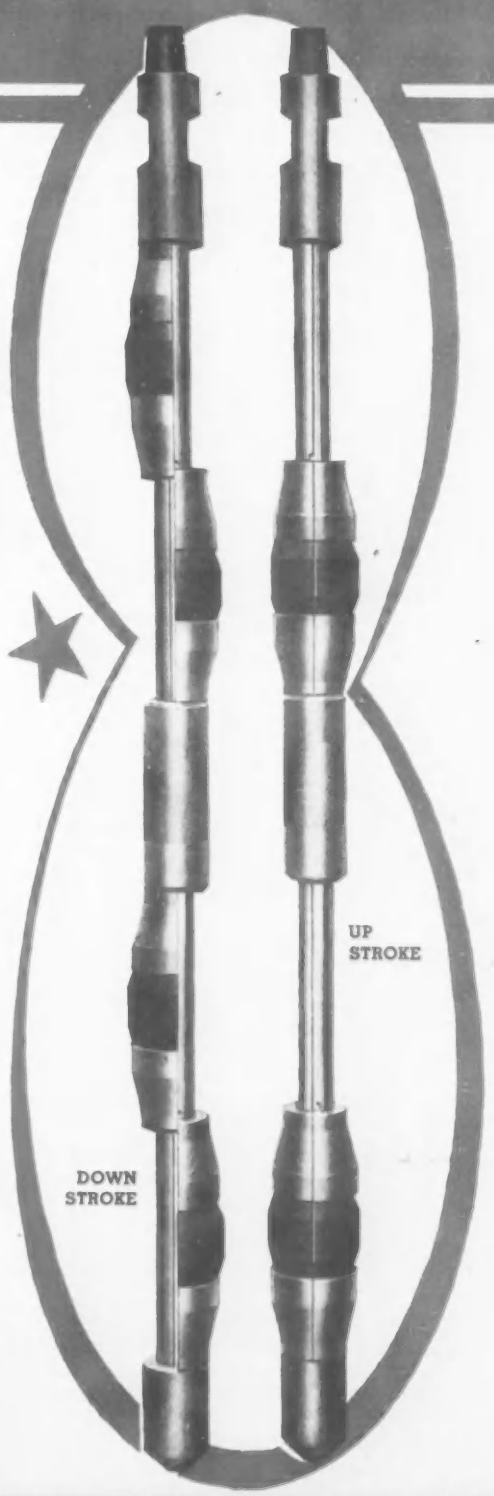
MISSION ★VALVELESS SWABS

GIVE

3 TO 15 TIMES

Faster Swabbing

WITH **SAFETY**



FASTER because the unique split-rubber principle gives unrestricted fluid passage

SAFER because gas pressure will open split rubber permitting gas to by-pass. Less likely to blow swab from hole with injury to men, damage to wire lines, and danger from fire.

Always specify

MISSION *Valveless* SWABS

the first choice of

LEADING OIL COMPANIES THE WORLD OVER

SEE THE COMPLETE LINE OF MISSION PRODUCTS
AT THE TULSA OIL SHOW.

MISSION POLICY
"IF A PRODUCT DESIGNED BY MISSION IS NOT . . . PROVEN *Superior* MISSION WILL NOT PRODUCE IT"

MISSION MANUFACTURING CO.
HUMBLE ROAD, HOUSTON, TEXAS
EXPORT OFFICE: 30 ROCKEFELLER PLAZA, NEW YORK

• • • • SLIPS • VALVES • PISTONS • PISTON RODS • SWABS

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Westcott & Greis, Inc.
TULSA, OKLAHOMA

American Meter Company
ERIE, PENNSYLVANIA

Davis Regulator Company
CHICAGO, ILLINOIS

Crosby Steam Gage & Valve Company
NEW YORK, N. Y.

Robinson Orifice Fitting Company
LOS ANGELES, CALIF.

Buffalo Meter Company
BUFFALO, N. Y.

Meriam Company
CLEVELAND, OHIO
Booths 45-46 and 57-58 Scientific & Technical Bldg.

EXHIBIT: Products of American Meter Company, Davis Regulator Company, Crosby Steam Gage & Valve Company, Robinson Orifice Fitting Company, Buffalo Meter Company and Meriam Company.

NEW PRODUCTS:

Metric-American Air-Actuated Remote Recorder and Controller—For control, long-distance transmission and charting of pressures and rate-volume of gas, air, steam or fluid measurement, including liquid-level control. Furnished complete with automatic reset control and all other desired features, providing zero to 100% throttling.

Metric-American Air-Actuated Remote Recorder and Controller.

REPRESENTATIVES: From Westcott and Greis—J. H. Satterwhite, H. W. Wahl, C. C. Clover, B. E. Keeling, R. A. Marsh, C. E. Crawford.

From Davis Regulator Company—George C. Davis and Russell Peterson.

From Crosby Steam Gage and Valve Company—George F. Felker, John Gieseke, Frank Breor and D. S. Kier.

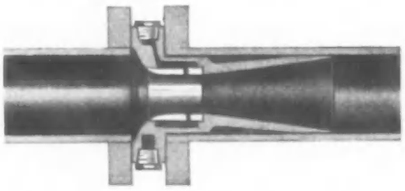
From Robinson Orifice Fitting Company—Harry Robinson.

Builders Iron Foundry
PROVIDENCE, RHODE ISLAND
Booth 78 Texas Bldg.

EXHIBIT: Flow nozzle. Specific Gravity Compensator.

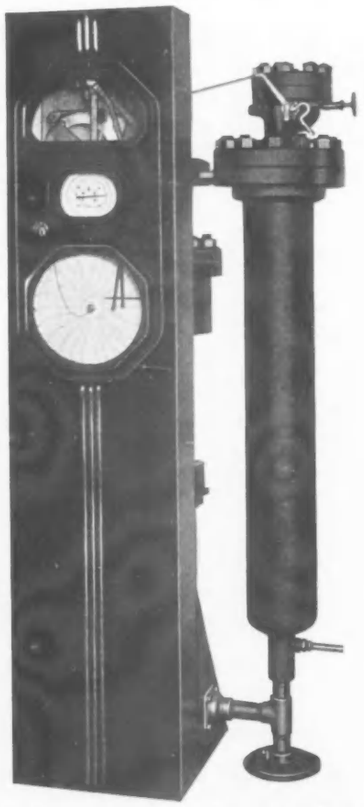
NEW PRODUCTS:

Flow Nozzle—This new insert type flow nozzle is installed inside of the line at a flanged connection. It is suitable for pipe line and refinery uses. The manufacturer claims low cost and high power recovery as features.



Builders Foundry Insert Flow Nozzle

Venturi Meter With Specific Gravity Compensation—This specific gravity compensator, recently developed, is incorporated in the company's Type M "Totalizer-Recorder" flow meter to adjust totalizer readings for variations in gravity of the effluent measured. Unusual accuracy over a wide range is obtained by the combination of this instrument and a University calibrated venturi tube, it is claimed. This equipment was designed primarily for pipe line and oil refinery service.



Builders Foundry Type M Totalizer-Recorder Flow Meter

Royal Manufacturing Company
TULSA, OKLAHOMA

Bettis Sales Company
HOUSTON, TEXAS

Pyle-National Company
CHICAGO, ILLINOIS

Texsteam Corporation
HOUSTON, TEXAS
Outside NEc Kansas Bldg.

EXHIBIT: Tool joint dressing. Zeolite water softeners. Oil field paints. Bettis steam generators. Pyle-National steam turbines and generators. Texsteam safety valves.

REPRESENTATIVES: W. R. Mallory, R. S. Penney and J. M. Sheesley.

Jarecki Manufacturing Company
ST. LOUIS, MISSOURI
Booths 87-88 Texas Bldg.

EXHIBIT: Malleable and cast iron valves and fittings. Bronze valves and fittings. Erie improved stuffing box. Threadless hinged bell nipple. Pumping and flowing tee. Jarco roller pull rod carrier. Berry pattern casing head.

NEW PRODUCTS:

Nickel Bronze Gate Valve.

Heavy-Duty Porous Bushed Roller Pull Rod Carrier.

REPRESENTATIVES: Officers, district managers and salesmen.

The Oil Well Improvements Company
TULSA, OKLAHOMA
Booths 33-35 Texas Bldg.

EXHIBIT: Orbit drilling, flow-line and manifold valves. Control casing heads. Roller oil savers.

NEW PRODUCTS:

Orbit Valves are shown in new sizes and types. These valves are designed to give positive shutoff and to operate easily under high pressures. They are made in drilling and flow line types.

Control Casing Head—An entirely new development is shown at Oil Well Improvment Company's exhibit.

REPRESENTATIVES: Alf G. Heggem, Ed Ligon, Don W. Blevans, J. Mumford, Roy Elliott, W. O. Ligon and Fred S. Dewel.

American Rolling Mill Company

MIDDLETOWN, OHIO
Booths 70-71 Oklahoma Bldg.

EXHIBIT: Pictorial inspection trip through pipe mill and oil field. Samples of Armco spiral welded pipe.

REPRESENTATIVES: S. R. Ives, manager pipe and formed products, Middletown; R. C. Beam, manager spiral welded pipe department, Middletown; R. E. Walker, district representative, Tulsa; T. J. Robinson, district representative, Houston.

Progressive Brass Manufacturing Company

TULSA OKLAHOMA
Booth 10 Texas Bldg.

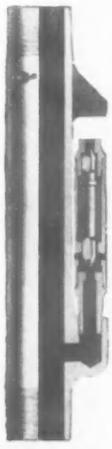
EXHIBITS: Brass, bronze, aluminum and alloy castings. Bronze bearings, rough and finished. Bronze bushings, rough and finished. Bronze replacement parts for oil field engines and clutches. Vent and gauge control for storage tanks. Thief hatches.

REPRESENTATIVES: N. A. Doolittle, C. O. Beckett, E. A. Raines, E. J. Thomas.

The Guiberson Corporation

DALLAS, TEXAS
Booths 217-218-233-234 Oklahoma Bldg.

EXHIBIT: Gas-lift equipment. Drillable aluminum packer. Standard packers. Tubing and casing swabs. Tubing catchers, with and without anchors. Spiral tubing and casing packers. Tubing spiders. Wire line oil savers. Sucker rod strippers. The entire display will be one of tools in action, the gas lift demonstration producing from below the surface and visualizing results obtained with this method of production. This exhibit employs two types of equipment: (1) the flow valve, and (2) surface-controlled intermitter.

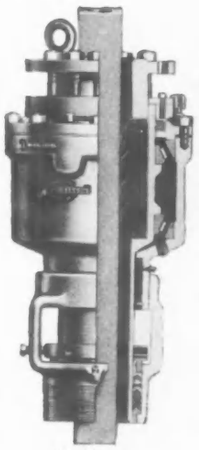


Guiberson Type C Flow Valve

NEW PRODUCTS:

Type C Flow Valve for gas lift operations operates solely by differential, both in opening and closing. Fluid velocity does not affect operationof the valve. The mechanism has only one moving part. Field tests show use of small amounts of gas.

Surface Controlled Intermitter was designed chiefly for low productivity wells, and permits control of the slug size from the surface. Only one setting of the time control is required for clock-like consistency of fluid delivery, it is claimed. Construction is simple and sturdy. Increased production is claimed.

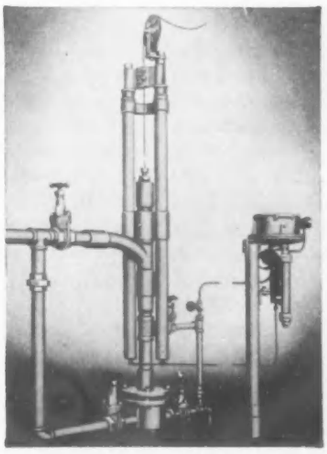


Guiberson Type E Rotating Blowout Preventer, Drilling Head and and Stripper

Rotating Blowout Preventer, Drilling Head and Stripper—This tool was engineered to keep drilling under control, especially where high gas pressures are encountered. Positive pack-off seal is accomplished by a sure-grip rubber that holds firmly any type kelly, tubing or drill pipe. The core that holds the rubber revolves with the drill stem on roller bearings. The three uses for this tool are drilling-in under pressure, blowout prevention, and reverse circulation, either in cleaning-out or drilling-in.

Drillable GT Aluminum Packer designed to meet difficult pack-off problems. In basic design the packer is constructed in the same sturdy manner as the standard Type GT packer, including the control head feature. The only change is from steel to aluminum. The aluminum offers little resistance to the bit when drilling-up becomes necessary.

REPRESENTATIVES: S. A. Guiberson, Jr., Allen Guiberson, G. G. Guiberson, R. G. Taylor, Jr., A. Pranger, H. U. Garrett, C. E. Tweedle, E. D. Wilde, R. E. Kenngott, R. L. McAdams, T. H. Pike, Jr., and V. G. Brettmann.



Guiberson Surface Controlled Intermitter

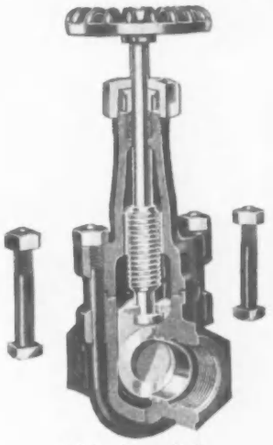
Ohio Injector Company

WADSWORTH, OHIO
Booths 227-228 Oklahoma Bldg.

EXHIBITS: Complete range of Duo-Bolt and other Ohio Injector valves.

NEW PRODUCTS:

O. I. C. Duo-Bolt—The U-bolt is instantly replaceable with standard stock bolts. Featured in all iron and iron with bronze trim-screwed ends and flanged ends. Self-seating type horseshoe shaped slip-on wedge of standard taper. The wedge comes in malleable iron on iron valves with minimum tensile of 40,000 PSI, and in high grade steam bronze, ASTM-B-61 on all bronze mounted valves.



Ohio Duo-Bolt

REPRESENTATIVES: Wayne Young, president; P. M. Arnall, vice president in charge of sales; H. G. Doster, vice president in charge of engineering; Grant LaMont, E. G. Blaylock.

The L. S. Starrett Company

ATHOL, MASSACHUSETTS
Booth 18 Scientific & Technical Bldg.

EXHIBIT: Mechanical tools. Dial indicators. Hacksaws. Steel tapes.

NEW PRODUCTS:

Oil Gauging Tapes with improved patterns.

REPRESENTATIVES: W. J. Greene, general sales manager; Roy Beardsley and W. J. Clark, representatives.

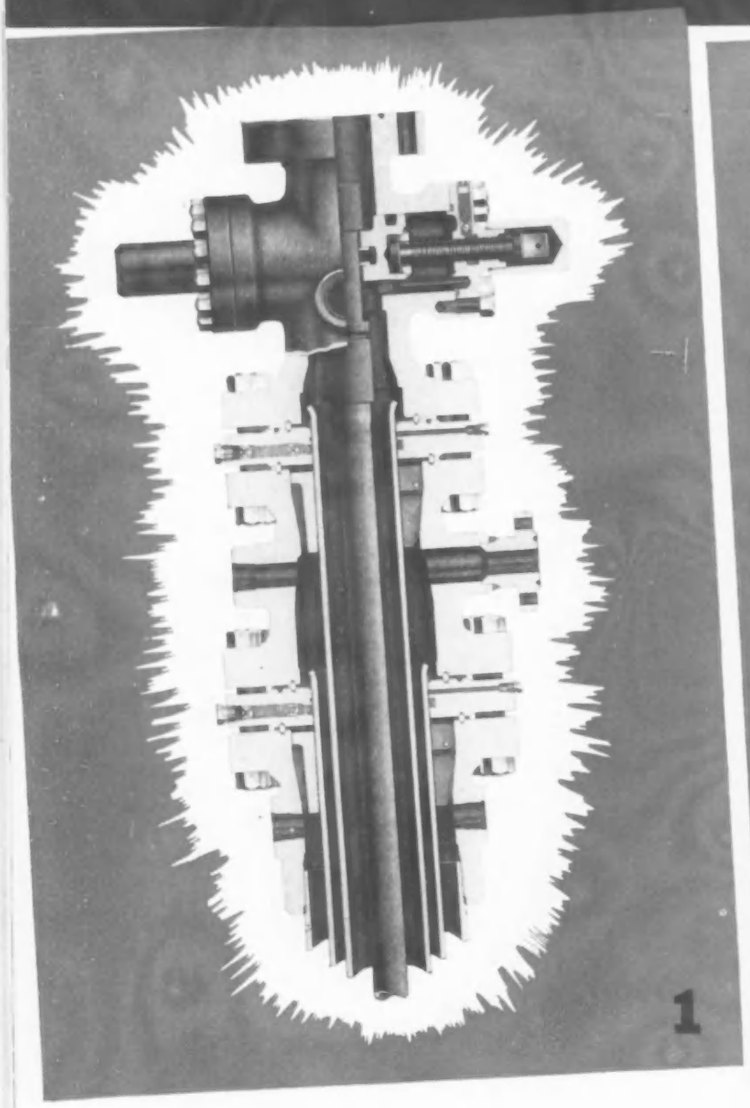
Reda Pump Company

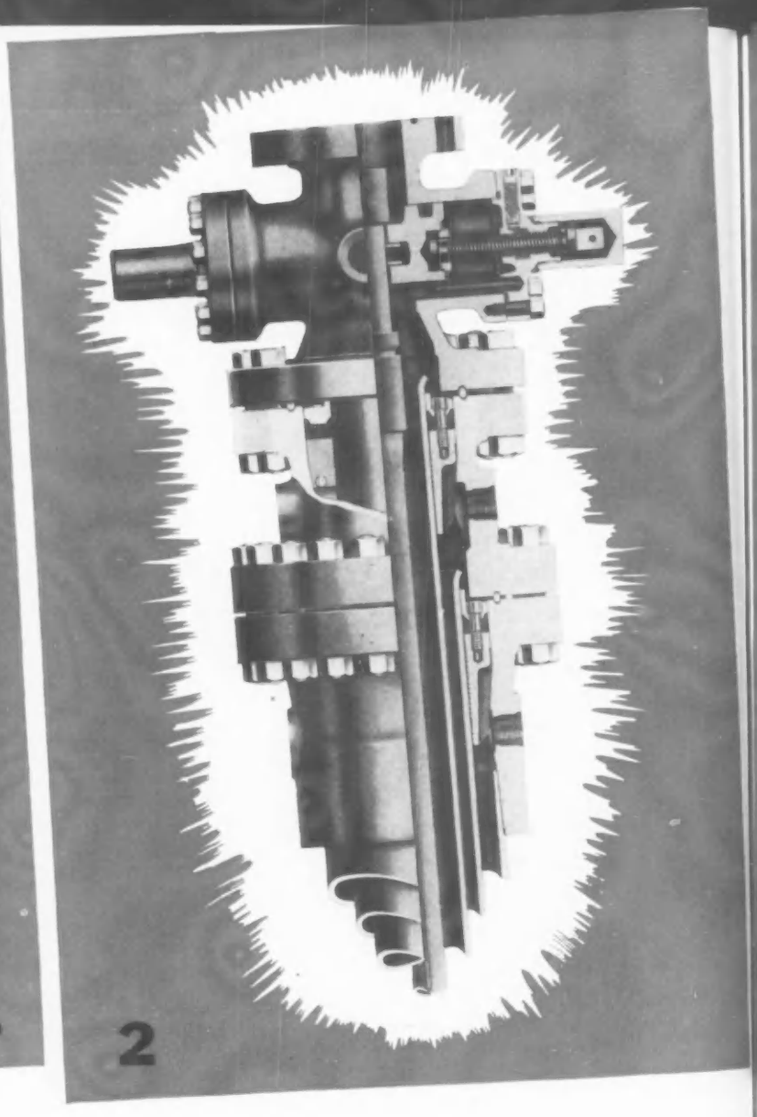
BARTLESVILLE, OKLAHOMA
Booths 50-51-54-55 Kansas Bldg.

EXHIBIT: Reda electrical centrifugal submergible pumping units and operating equipment.

REPRESENTATIVES: A. Arutunoff, P. E. Loye, G. S. Schuhmacher, Victor Kotschoubey, R. P. Clark, E. V. Guffey, F. Rees Flint, J. C. Hutchins, O. M. Holtsclaw and Dalton W. Lain.

GET THE MOST FOR YOUR WELL HE





1. Cameron Nest for completing extremely high pressure wells and suspending casing loads of any magnitude. Tubing suspended and sealed on closed rams of Tubing Control Head. Slip suspension of casing strings. Welded seal of space between casing strings, utilizing the type "M" *Test-weld* flange with secondary repackable plastic packing seal.

2. Cameron Nest with the new Type "W" neoprene seal between casing strings and slip suspension for casing loads of any magnitude. Seal is accomplished by tightening socket head cap screws which screw directly into the top of the slips. A low-cost head, economical to set since no welding is required. Tubing is suspended and sealed on the rams of the Tubing Control Head.

3. Cameron Nest with slip suspension of tubing to facilitate setting formation packer. Rams of the Tubing Control Head are utilized as an annular space master gate, with outlets provided above the rams. Boll-weevil suspension of casing strings with a repackable plastic packing seal around the shank of the hanger.

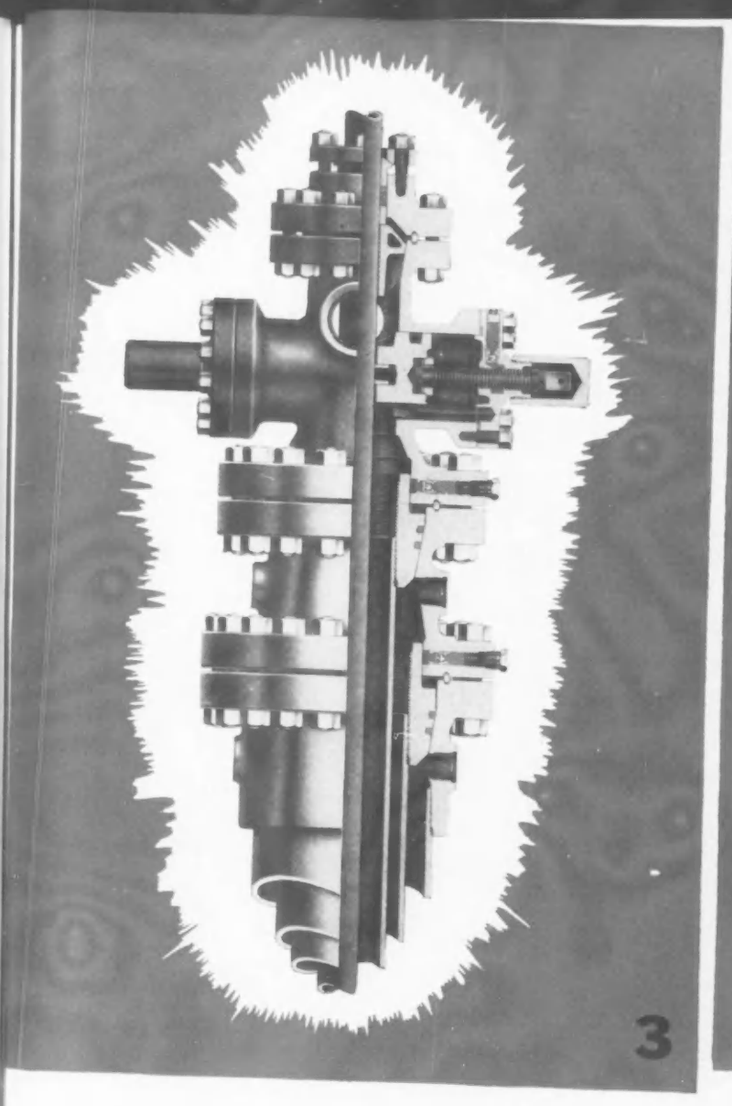
4. Cameron Nest illustrating the use of both Type "U" and Type "UP" Boll-weevil Tubing Heads. Right — Type "U" effects seal by making up on recessed socket head set screws to compress neoprene packing; Left — Type "UP" is identical to the Type "U" but is also provided with the unique repackable plastic packing seal above the primary seal. Slip suspension of casing and welded seal of space between casing strings, utilizing Type "J" welding flange.

Ram Type Tubing Control Head Serves Four-fold Purpose

(1) It provides the ultimate in safe, dependable control during every step of the completion operation; (2) It provides three proven methods of suspending and sealing the tubing string; (3) It obviates the need of a cement retainer when making a squeeze job; (4) It is extremely practical on any re-working subsequent to original comple-

Cameron-ize for Maximum Safety and

L HEAD DOLLARS...GET CAMERON!



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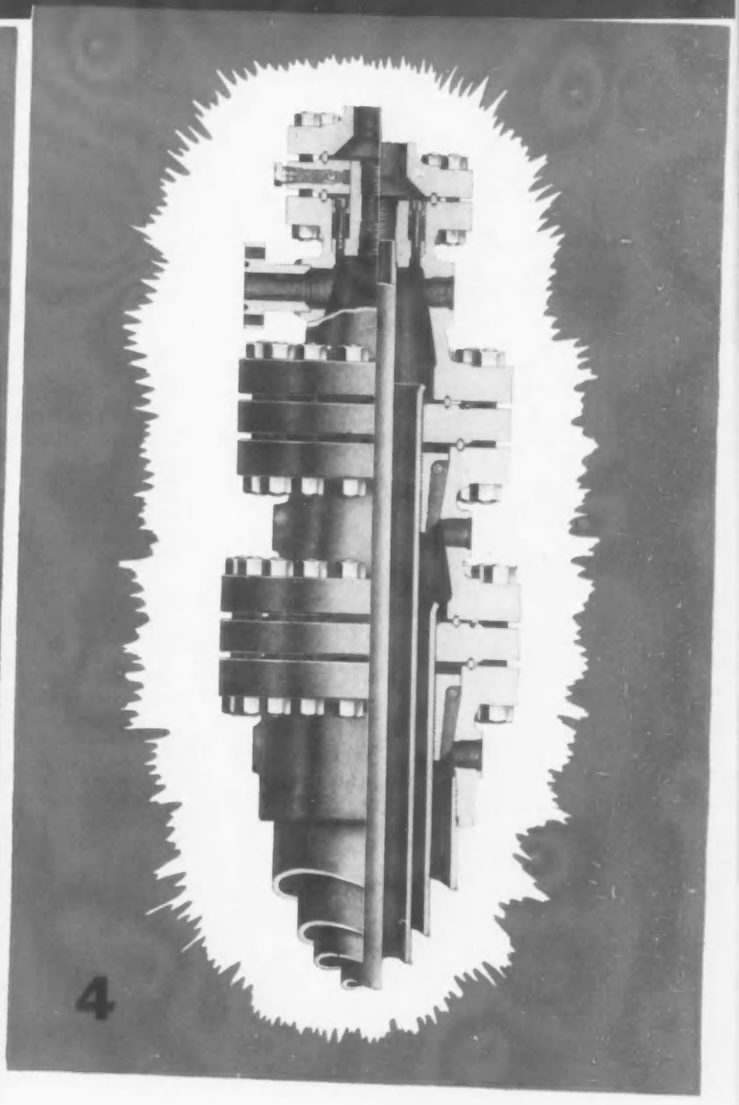

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tion of the well.

Note how its rams, equipped with Self-feeding Packing Elements, may be utilized for both suspending and sealing the tubing string. The plastic packing seal around each ram thrust screw may be safely repacked under pressure.

4 Methods of Sealing and Suspension Interchangeable in All Cameron Casing Heads and Spools

All types of Cameron well heads employ the same casing head housing and spool body, which will accommodate any of the Cameron methods of sealing and suspension illustrated above. Thus, the operator may install a casing head housing and later select the type of hanger best suited for his particular needs.

CAMERON IRON WORKS, INC.

711 Milby St., Houston, Texas.
Export: 74 Trinity Place, New York, N. Y.
California Distributor: The Howard Supply Co., Los Angeles.
Oklahoma Representative: Paul Edkin, Tulsa.

THE WHOLE STORY OF CAMERON'S
Safe, Simplified Method of Drilling and Completion is in this Booklet

●

If you visit the International Petroleum Exposition you are invited to inspect our exhibit, Booth No. 84, Texas Bldg., and get your copy of this interesting booklet. Or, a copy will gladly be mailed to any interested operator upon request.

●

Flexibility Every Inch of the Way!

The Bastian-Blessing Company

CHICAGO, ILLINOIS
Booths 36-37 Oklahoma Bldg.

EXHIBIT: Welding and cutting equipment.

NEW PRODUCTS:

Propane and Butane Cutting Tips—These tips are designed for use with butane, propane, natural, manufactured and coke oven gases. Of two-piece construction, they incorporate a brass core and a replaceable copper sleeve or shell. Deep slots in the core act as

Bastian-Blessing Cutting Tips

passages for the preheat gases and are designed to reduce the effect of infiltration of outside air in the preheat flame. The development is to make possible quick starts as a greater amount of the hotter unadulterated preheat flames come in direct contact with the metal to be cut. The saving in preheating time results in a saving in gas and in cutting oxygen as concentration of preheating flames makes for narrow clean kerfs.

Rego Multiple Tips — Designated Rego GXH series, the tips are available in four sizes, 72, 68, 60 and 56. Their multiple-hole construction is designed to permit high heat output with a soft, brush-like flame that eliminates turbulence in the weld puddle and prevents detrimental pin-holes in the applied hard-surfacing material after it has cooled. A wide flame makes it easier to keep the weld zone and the rod in a protective carbonizing flame envelope to eliminate harmful oxidation. An individual mixer is provided on each top to assure correct gas mixing and economical operation. They are designed for use with the company's standard Rego GX or SX welding torch handles.

Rego Multiple Tips

REPRESENTATIVES: E. L. Mills, R. E. Poethig, J. C. Owen, N. E. Johnson and M. J. LaDue.

Young Engine Corporation

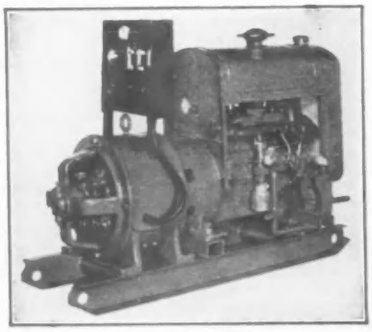
CANTON, OHIO
Block A Outside

EXHIBIT: Universal jack shaft assembly. Drilling engine. Electric generating unit.

NEW PRODUCTS:

Universal Jack Shaft Assembly features an Airflex cut-off coupling that engages to permit use of combined power of both drilling engine and slush pump power unit for the draw works when handling pipe, or both engines to be compounded for extra power for the slush pumps when needed. Finger-tip control from the derrick floor gives the driller reverse of motion and control of engine speed.

Young Electric Generating Units are supplied for alternating or direct current with size ranges from 1 to 75-kw and direct-connected through a flexible coupling to a four- or six-cylinder engine, gas, gasoline, butane or Diesel. The units, mounted on steel skid bases, are furnished with radiator, fan, starting motor, battery, switchboard and voltage regulator.



Young Electric Light Plant

Young Drilling Engines are supplied for gas, gasoline or Diesel fuel, and deliver their power through right-angle drive reversible transmission. The operator, to reverse direction of rotation, moves a single control lever by disengaging either the forward or reverse friction clutch, automatically applying the pulley shaft brake to stop and hold the load in any position. The brake is released when either clutch is engaged, or may be released by trip cord while the clutches are in neutral position. Each engine is mounted on a welded skid frame for permanent alignment and easy moving. Units are powered with six-cylinder heavy-duty motors ranging from 85 to 350 horsepower, and have Timken roller bearings.

REPRESENTATIVES: W. T. Young, A. E. Avers and Paul A. Foster.

The Garlock Packing Company

PALMYRA, NEW YORK
Booths 59-60 Texas Bldg.

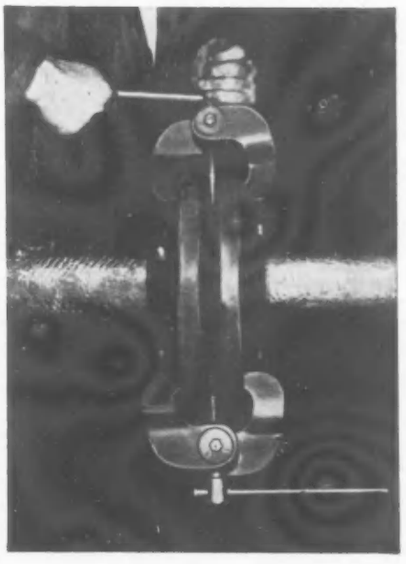
EXHIBIT: Mechanical packings, including fibers, asbestos, semi-metallic and metallic. Lattice braid packing. Flange-jack.

NEW PRODUCTS:

Lattice Braid is a new principle in fabrication of braided packings.

Flange-Jacks were designed for replacing gaskets in flanged pipe lines without strain upon the fittings. In operation, two bolts are removed from the flanges on opposite sides from each other. The jaws of a jack are placed in each of the bolt holes and tightened just enough to hold the jacks in position. The remainder of the bolts are then removed from the joint and the jackscrews tightened until sufficient opening between the flanges has been obtained. The old gasket is then removed, faces of the flanges cleaned and the new gaskets inserted. Both jackscrews are backed off simultaneously and the bolts applied to the flanges.

REPRESENTATIVES: R. J. Hinkle, advertising manager; R. I. Hamilton, metal packing representative; E. W. Fisher, service department; Ford Wilders, advertising department; F. E. Erlandson, Cleveland district manager; H. J. Kuhn, St. Louis district manager; H. G. Ferris, J. M. Foley, C. F. Palmer, G. A. Pattillo and G. C. Wieda, sales representatives.



Garlock Flange-Jack

Clark Electrical Supply Company

TULSA, OKLAHOMA
Booth 49 Kansas Bldg.

EXHIBIT: Spang-Chalfant conduit. Crescent wires and cables. Square D switches. P. & S. wire devices. Modernaire attic fan. Hunter fans.

REPRESENTATIVES: J. P. Clark and R. A. Almond.

National Tank Company

TULSA, OKLAHOMA
Booths 96-98 and 113-115 Texas Bldg.

EXHIBIT: Model of field distillate plant. Model of central distillate recovery plant. Model of crude oil emulsion-treating and salt-water disposal system. Model of wood tank battery. Separators. Armco casing.

NEW PRODUCTS:

Field Distillate Recovery Plant designed to handle up to 20,000,000 cubic feet of high-pressure gas a day is shown in 1/12 model scale. It illustrates features of precooling before separating, multi-stage separation and hydrate control. The model shows how the well flow is handled from entrance into the system to injection back into underground formation.

Central Distillate Recovery Plant, shown in 1/12-scale model, is designed to handle up to 40,000,000 cubic feet of gas a day. It carries the well fluids through a complete process of precooling, water removal, densification, separation, and fractionation and stabilization of the finished products. The model will show equipment necessary, the hookup, and colored pipe lines will show the course of the fluids throughout the system.

Crude Oil Emulsion-Treating and Salt-Water Disposal Systems shown by ¼-scale models and include a model National automatic treating unit constructed of transparent plastics to permit observation of the various features of oil and gas separation, fee water removal, emulsion treating and after cooling the clean oil. The water disposal system includes an automatic combination accumulator and filter tank for handling all water from the treater. The filter tanks operate under the same pressure as the treater and are equipped with automatic mechanism for controlling removal of the accumulated water and pumping it into underground reservoir. The display is complete with storage tank battery with the latest of vapor-saving and other equipment.

Wood Tank Battery will include a wash tank and two stock tanks. In conjunction with the tanks will be cutaway models of a National emulsion heater and an Indirect emulsion heater, the hookup and equipment being designed for handling highly corrosive emulsions.

REPRESENTATIVES: Jay P. Walker, Cecil G. Wells, Guy O. Marchant, J. E. Richard, L. S. Allen, C. O. Glasgow, C. D. Laidley, S. S. Parker, Floyd L. Senter, C. W. Immel, Ed. M. Fontaine, W. A. Todd, Merle W. Bryan, L. E. Murray, C. G. Shropshire, Roger La Plante, Ward E. Guin and R. W. Erwin.

Frick Company

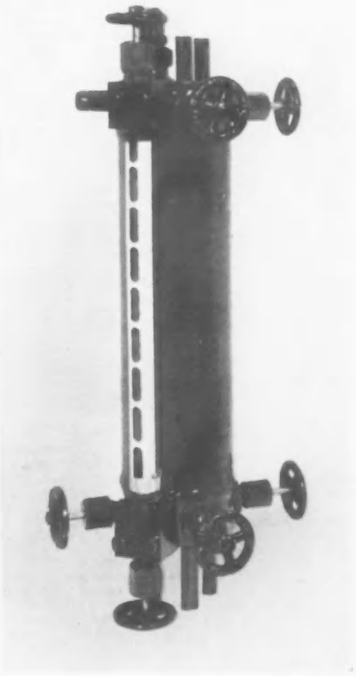
WAYNESBORO, PENNSYLVANIA
Booths 30-31 California Bldg.

EXHIBIT: Refrigerating and air conditioning equipment. Equipment will be shown either in operation or in a position for close inspection.

NEW PRODUCTS:

Unit Type Purger—This new purger, known as the "Little Giant," is made in two sizes and incorporates all the operating valves in unit assemblies at the top and bottom of the shell. Inside the shell is a coil kept cold by the direct expansion of a small quantity of the refrigerant, which is drawn into the main suction line of the system. Ammonia or Freon-12 entering the device is condensed by the cold, while the air or other non-condensable gases collect above the liquid. The liquid drains by gravity to the receiver. The sight glass is provided enabling the engineer to tell when sufficient gas has accumulated to warrant its being blown off through opening the purger valve.

REPRESENTATIVES: George Basore, Oklahoma City manager; A. A. Hoppe, Van J. Sparks, A. E. Roebke; A. T. Feaster, Jesse Rust and Terry Mitchell.



Frick Unit Type Purger

J. P. DeVine Mfg. Co., Inc.

MT. VERNON, ILLINOIS

Sivyer Steel Casting Company

MILWAUKEE, WISCONSIN

William F. Klemp Company

CHICAGO, ILLINOIS

Wheeling Machine Products Co.

WHEELING, WEST VIRGINIA

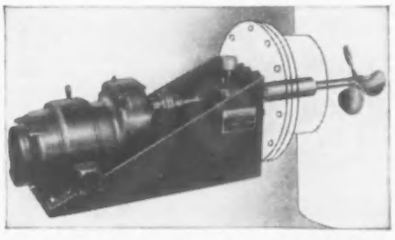
W. V. C. Jackson

TULSA, OKLAHOMA

Mixing Equipment Company

ROCHESTER, NEW YORK
Booths 118-119-120-121-122-125 Kansas Bldg.

EXHIBIT: Mixing Equipment Company side entering mixers, nozzle-mounting tripods, portable mixers, motion pictures and data on propeller type mixing of motor fuel and lube oil. J. P. Devine refinery vessels and heat exchangers. Sivyer Steel Casting Company furnace fittings. William F. Klemp Company steel products. Wheeling Machine Products Company pipe and tubing couplings.



Mixing Equipment Company Mixer

REPRESENTATIVES: W. V. C. Jackson, manufacturers representative.

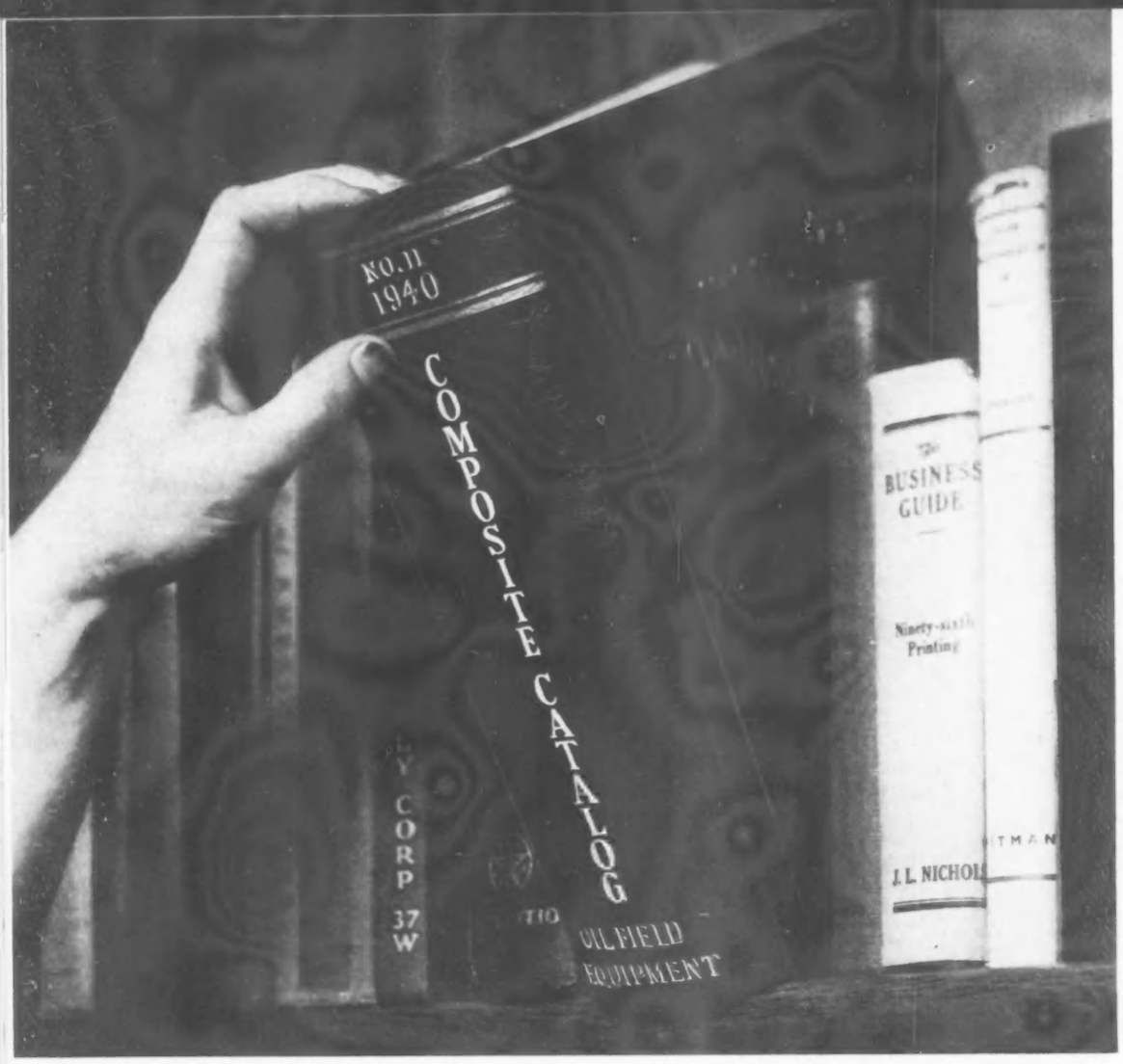
From J. P. Devine Mfg. Co.: C. W. Reynolds, president; J. E. Fogarty, general sales manager.

From Sivyer Steel Casting Company: Ralph Burke, manager refinery department.

From Mixing Equipment Company: F. H. Gordon, Jr., president; L. R. Gordon, vice president; E. S. Bissell, general manager and technical director; F. D. Miller, chief engineer; Ken Puffer, Texas representative; Stanley Williams, Texas representative.

From William F. Klemp Company: A. E. Sangdahl, president; F. B. Ramsdell, vice president.

From Wheeling Machine Products Company: A. Briese, vice president.



An

See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY, 18-25

* Taken from the latest list of exhibits furnished us by the show management.

Here

A

*A-1 Bit & Tool Co.
Abegg & Reinhold Co., Ltd.
Abercrombie Pump Co.
*Acme Fishing Tool Co.
Advanced Petroleum Equipment Corp.
*Air-Maze Corp.
*Ajax Iron Works
Alamo Iron Works
*Allis-Chalmers Manufacturing Co.
Allsteel Products Manufacturing Co.
*Alten's Foundry & Machine Works
Aluminum Company of America
*American Cable Division, American Chain & Cable Co., Inc.
American Forge Division, American Brake Shoe & Foundry Co.
*American Iron and Machine Works Co.
American Locomotive Co.
American Manganese Steel Division, American Brake Shoe & Foundry Co.
*American Manufacturing Co. of Texas
American Meter Co.
*American Roller Bearing Co.
*American Sand-Banum Co., Inc.
*American Steel & Wire Co.
American Steel Derrick Co.
American Well & Prospecting Co.
Ashcroft American Gauge Division, Manning, Maxwell & Moore, Inc.
*Athey Truss Wheel Co.
Atlas Imperial Diesel Engine Co.
C. L. & W. W. Auer
*Axelson Manufacturing Co.

B

Baash-Ross Tool Co.
*Baird Manufacturing Co.
*Baker Oil Tools, Inc.
*Baldwin-Duckworth Division, Chain Belt Co.
*Bantam Bearings Corp.
*Baroid Sales Department, National Lead Co.
The Barrett Co.
The J. B. Beaird Corp.
*Beaumont Iron Works Co.
*Beaver Pipe Tools, Inc.
Beck Engineering Combustion Ko.
Beers Steel Building Corp.
*Bethlehem Steel Co.
Bettis Rubber Co., Ltd.
Bettis Sales Co.
*Black, Sivalls & Bryson, Inc.
S. R. Bowen Co.
Bowen Co. of Texas
Braden Steel Corp.
Bradford Motor Works
*Brauer Machine & Supply Co.
The Brewster Co., Inc.
*The Broderick Co.
*Broderick & Bascom Rope Co.
Ralph N. Brodie Co., Inc.
Brown Oil Tools, Inc.
Browning-Ferris Machinery Co.
*The Buckeye Traction Ditcher Co.
*The Buda Co.
Buffalo Bolt Co.
Bull-Stewart Equipment Co.
Bullum, Inc.
*The Bunting Brass & Bronze Co.
Burt Tank, Separator & Oil Treating Corp.
Butler Manufacturing Co.
*Byron Jackson Co.

C

C-M-P Fishing Tool Corp.
*Cabot Shops, Inc.
*Cameron Iron Works, Inc.
*Cardwell Mfg. Co., Inc.
Carlyle Rubber Co., Inc.
J. I. Case Co.
*Caterpillar Tractor Co.
*The Cavins Co.
*The Central Forging Co.
*Chain Belt Co. of Milwaukee
*The Chaplin-Fulton Manufacturing Co.
*Chicago Bridge & Iron Co.
*Chicago Pneumatic Tool Co.
*Chicago Rawhide Manufacturing Co.
*Chiksan Tool Co.
*Clark Brothers Co., Inc.
*The Cleveland Trencher Co.
Climax Molybdenum Co.
*Coffing Hoist Co.
Consolidated Chemical Industries, Inc.
*Continental Motors Corp.
*The Cooper-Bessemer Corp.
*Fred E. Cooper
Core Laboratories, Inc.
*Crane Co.
Crosby Steam Gage & Valve Co.
Crum-Brainard Co., Ltd.
Cummins Engine Co.

D

*Darling Valve & Mfg. Co.
*The Dayton Rubber Manufacturing Co.
Deckard Mfg. Co.
*Diamond Chain & Mfg. Co.
Diamond Metal Co., Inc.
Dixon Valve & Coupling Co.
*Dodge Manufacturing Corp.
*Dowell Incorporated
The Dragon Manufacturing Co.
*Dresser Manufacturing Co.
*The Duff-Norton Manufacturing Co.
*E. I. Du Pont De Nemours Co., Inc.

E

Eason & Therolf Tool Co.
*Eastman Oil Well Survey Co.
E. H. Edwards Co.
The Egan Manufacturing Co.
The Electric Storage Battery Co.
Emsco Screen Pipe Co.
*Engineering Laboratories, Inc.
The Eureka Tool Co.
Everlasting Valve Co.
*The Exner-Dodge Packer Co.

F

*George E. Failing Co.
*Fairbanks Morse & Co.
*Farrar & Trefts, Inc.
*Farrel-Birmingham Co., Inc.
C. A. Fischer Co.
The Edwin H. Fitler Co.
*Foote Bros. Gear & Machine Corp.
The Foster Cathead Co.
*The France Packing Co.
*Franks Mfg. Corp.

G

The G & O Manufacturing Co.
*Gardner-Denver Co.
*The Garlock Packing Co.
Garrott Brass & Machine Co., Inc.
Gar Wood Industries, Inc.
Gas Lift Corp.
The Gasket Manufacturing Co.
*Gaso Pump & Burner Mfg. Co.
*Gatke Corp.
Gearench Mfg. Co.
*General Electric Co.
Fred I. Getty
*L. H. Gilmer Co.
Globe Oil Tools Co.
Goodall Semi-Metallic Hose & Mfg. Co.
*The Goodyear Tire & Rubber Co., Inc.
H. P. Gott Manufacturing Co.
*Grant Oil Tool Co.
Gray Tool Co.
Great Lakes Steel Corp., Stran-Steel Division
Green Head Bit and Supply Co.
*Grove Regulator Co.
*The Guiberson Corp.
Gulf Coast Machine & Supply Co.
Gulf Engineers, Inc.
Gulf Supply Co., Inc.
The Gwilliam Co.

H

Hacker Machinery & Supply Co.
*Halliburton Oil Well Cementing Co.
*Hanlon-Waters, Inc.
Harbison-Fischer Manufacturing Co.
Harnischfeger Corp.
Harrisburg Steel Corp.
*Haynes Stellite Co.
Hazard Wire Rope Division, American Chain & Cable Co., Inc.
*Hercules Motors Corp.
Hercules Tool Co.
Hewitt Rubber Corp.
*Hinderliter Tool Co.
Hobbs Manufacturing Co.
Hopper Machine Works, Inc.
A. C. Horn Co.
*The Charles N. Hough Mfg. Co.
Houston Engineers, Inc.
Houston Ready-Cut House Co.
*Hughes Tool Co.
Humphrey Steel Products Co.
Hunt Tool Co.
Hutchison Engineering Works
Hydraulic Pump Co.
*Hydril Co.

I

The Inferno Co.
*Ingersoll-Rand Co.
*International Derrick & Equipment Div. International-Stacey Corp.
*International Harvester Co.
*The International Nickel Co., Inc.

J

The Jaeger Machine Co.
*D. O. James Manufacturing Co.
Jefferson Union Co., Inc.
*The Jeffrey Manufacturing Co.
*Jenkins Bros.
Jensen Brothers Manufacturing Co.

THE COMPOSITE CATALOG OF OILFI

OIL SHOW *at your finger tips*

The International Petroleum Exposition is truly a most interesting display of Oil Field and Pipe Line Equipment. We hope you will be able to attend and extend to you a most hearty welcome.

And for you men out on the job—who are unable to get away—while we cannot bring to you the glare and excitement of the lights and crowds—we can offer you an "oil show," which as far as information on new and improved equipment is concerned, is the most complete in the history of the industry.

Your 1940 Composite Catalog is an exposition in itself of all that is new in the way of oil field tools, machinery and supplies. It contains up-to-the-minute information on the products of more than four hundred of the leading manufacturers of oil field and pipe line equipment. This information is available there, handy, in your office—an oil show at your finger tips.

IS THE LIST OF MANUFACTURERS IN THE COMPOSITE CATALOG

★ The star before their name indicates they have a display in the International Petroleum Exposition, May 18-25, in Tulsa.*

*Johns-Manville
M. O. Johnston Oil Field Service Corp.
M. O. Johnston Oil Tools, Inc.
*Jones & Laughlin Steel Corp.
*The Joyce-Cridland Co.

K

Kane Boiler Works, Inc.
*Kerotest Manufacturing Co.
*Keuffel & Esser Co.
Kibele Manufacturing Co.
King Oil Tools
Kinzbach Tool Co., Inc.
*Kobe, Incorporated
Koenig Iron Works
*Koppers Co.

L

L-K Pump Valve Co.
Lacy Oil Tool Co.
*Laminated Shim Co., Inc.
Lamtex Equipment Corp.
*Lane-Wells Co.
Larkin & Co.
*Larkin Packer Co., Inc.
Layne and Bowler Co.
*Le Roi Co.
*A. Leschen & Sons Rope Co.
*The Lincoln Electric Co.
*Line Scale Co., Inc.
*Link-Belt Co.
*Link-Belt Speeder Corp.
The Lorraine Corp.
Louisiana Supply Co.
Lowell Wrench Co.
Lowrey Oil Tools, Inc.
*Lubrikup Co., Inc.
Lucey Boiler & Manufacturing Corp.
Lucey Export Corp.
Lucey Products Corp.
The Ludlow Valve Mfg. Co., Inc.
*Lufkin Foundry & Machine Co.
*The Lufkin Rule Co.

M

MacClatchie Manufacturing Co.
Maintenance Engineering Corp.
D. S. Mair Machinery Corp.
*Maloney Tank Mfg. Co.
Manning, Maxwell & Moore, Inc.
Ashcroft American Gauge Division
*Manzel Brothers Co.
Jas. P. Marsh Corp.
John N. Martin, Mfgr.
*Martin-Decker Corp.
*C. A. Mathey Machine Works
*McCord Radiator & Mfg. Co.
McCullough Tool Co.
McEvoy Co.
The Medart Co.
Medearis Oilwell Supply Co.
Merco Centrifugal Co.
*Merco Nordstrom Valve Co.
Merla Tool Corp.
Merritt-Waxler Tool Co., Inc.
*Mid-Continent Supply Co.
Midco Tool & Supply Co.
Midco Bailer Co.
Midwest Piping & Supply Co., Inc.
Erwin E. Miller
Miller Sand Pump Co.
*Mine Safety Appliances Co.
*Minneapolis-Moline Power Implement Co.
*Mission Manufacturing Co.
The Monroe Co.
The Moon Manufacturing Co.
*Lee C. Moore & Co., Inc.
Morse Chain Co.
*Motor Improvements, Inc.
Murphy Diesel Co.

N

*National Lead Co. (Baroid Sales Dept.)
The National Radiator Co.
*National Tank Co.
National Transit Pump and Machine Co.
Natural Gas Equipment, Incorporated
Naylor Pipe Co.
The New Deal Specialty Co., Inc.
*Norma-Hoffmann Bearings Corp.
*W. C. Norris Manufacturer, Inc.
Northrup Equipment Co.
*Novo Engine Co.

O

*Oil Center Tool Co.
Oil City Brass Works
*The Oil Country Specialties Mfg. Co. (O.C.S.)
*The Oil Well Improvements Co.
Oil Well Manufacturing Corp.
O-K Machine & Manufacturing Co.
Orange Roller Bearing Co., Inc.
The Oster Manufacturing Co.
Oster-Williams
*Otis Pressure Control, Inc.

P

Parkersburg Machine Co.
The Parkersburg Rig & Reel Co.
Patterson-Ballagh Corp.
Patterson Steel Co.
Pelican Well Tool & Supply Co.
Penberthy Injector Co.
Perfek Products Co.
Perkins Cementing, Inc.
Pittsburgh-Des Moines Steel Co.
*Pittsburgh Equitable Meter Co.
*Pittsburgh Steel Co.
Pomona Pump Co.
Port Houston Iron Works, Inc.
Portable Rig Co., Inc.
Price-Trawick, Inc.
Production Equipment Mfg. Co.

Q

Quaker City Rubber Co.

R

R-F Electrical Manufacturing Co.
*J. P. Ratigan
*Rector Well Equipment Co., Inc.
*Reda Pump Co.
*Reed Roller Bit Co.
*Regan Forge & Engineering Co.
*Joseph Reid Gas Engine Corp.
Reilly Tar & Chemical Corp.
*Republic Steel Corp.
The Rex Co.
Reynolds Manufacturing Co.
Rhodes Metallic Packing Co.
*The Ridge Tool Co.
*Robinson Packer Co.
*Rollway Bearing Co., Inc.
The Ruberoid Co.

S

*S-K-F Industries, Inc.
Saunders Brothers
*Schlumberger Well Surveying Corp.
*Security Engineering Co., Inc.
*Shafer Bearing Corp.
*Shaffer Tool Works
Simplex Jack Co.
M. B. Skinner Co.
E. M. Smith Co.
H. C. Smith Oil Tool Co.
Howard Smith Co.
*The Sonner Burner Co.
South Chester Tube Co.
The Southern Mill & Mfg. Co.
*Spang & Co.
Spencer Trailer Co.
*Sperry-Sun Well Surveying Co.
Stanclifff Screen Pipe Co.
Standco Bolt Co.
Standco Brake Lining Co.
The Star Drilling Machine Co.
Star Manufacturing Co.
The Staytite Co.
Stefco Steel Co.
Stoody Co.
Stran-Steel Division, Great Lakes Steel Corp.
*Sullivan Machinery Co.
*Surface Equipment Co.

T

Jas. W. Taylor, Inc.
*Technical Oil Tool Corp., Ltd.
*Templeton, Kenly & Co.
Texas Iron Works, Inc.
Texas and Louisiana Tool Co.
Texas Rubber & Specialty Corp.
Texsteam Corp.
*Texasteel Manufacturing Co.
Thew Shovel Co.
*Thompson Pump Co.
*Thornhill-Craver Co., Inc.
*The Timken Roller Bearing Co.
The Toledo Pipe Threading Machine Co.
*Tret-O-Lite Co.
Tuboscope Internal Inspection Service
Turbolite, Inc.
*Twin Disc Clutch Co.
*Tyson Roller Bearing Corp.

U

*The Union Chain and Manufacturing Co.
*Union Wire Rope Corp.
*Unit Rig & Equipment Co.
*United States Rubber Co.
United Supply & Manufacturing Co.
*Universal Atlas Cement Co.
*Universal Engineering Co., Ltd.
Universal Core Barrel Co.

V

*The Vapor Recovery Systems Co.
Ventura Tool Co.
*Vickers Incorporated
Volcano Burner Co.
*Vortox Manufacturing Co.

W

*W-K-M Co., Inc.
Wagner-Morehouse, Inc.
John Waldron Corp.
Washington Engine & Pump Co.
*Waukesha Motor Co.
Wedge Protectors, Inc.
Welch Mud Saver Co.
Well Equipment Mfg. Corp.
*Well Machinery & Supply Co., Inc.
West American Rubber Co.
*Western Iron & Foundry Co.
*Westinghouse Electric & Mfg. Co.
*Wheeling Machine Products Co.
The Wheland Co.
*The Whitney Chain & Mfg. Co.
Wichtex Machinery Co., Inc.
*Wickwire Spencer Steel Co.
*Willard Storage Battery Co.
J. H. Williams & Co.
K. R. Wilson
*Wilson Manufacturing Co., Inc.
*Wilson Supply Co.
Alfred Wirth & Co.
*Wisconsin Motor Corp.
*Worthington Pump and Machinery Corp.
Wright Manufacturing Division, American Chain & Cable Co., Inc.

Y

*Young Engine Corp.
Yowell Service Co.

Z

*John Zink Burner Co.
*Zublin and Co.

OILFIELD AND PIPE LINE EQUIPMENT

Westinghouse Electric Manufacturing Company

EAST PITTSBURGH, PA.
Booths 91-93 and 118-120 Oklahoma Bldg.

EXHIBITS: The production exhibit is a large animated picture of a complete well pumping equipment with instruments located at several points from the incoming power line to the pump at the bottom of the well to register instantaneous loads at any point in a complete pumping cycle. Measurements include input to the motor, torsional stress in the low speed shaft of the pumping gear, stretch in the pitman, bending in the walking beam, and loads on the polished rod, and at two different points on the sucker rod string between the surface and the pump at the bottom of the well.

Axelson Manufacturing Company

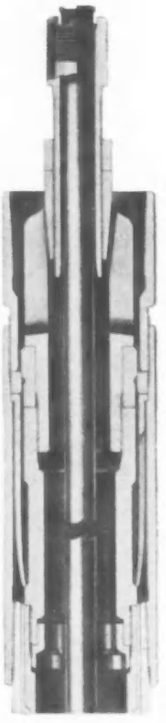
LOS ANGELES, CALIFORNIA
Frick-Reid Bldg.

EXHIBIT: Deep well pumps, sucker rods and heavy-duty engine lathes.

NEW PRODUCTS:

Pump and Packer Assembly uses standard Axelson pumps, standard parts and API connections. When put into service, the lower unit, which comprises the anchoring device and the packer, is run into the well and set by means of the rod string. An inexpensive setting tool is used in conjunction with the cast steel setting collar incorporated in the lower unit. The depth at which the unit is set is easily controlled, and the operation is essentially the same as setting a tubing anchor. After the packer has been located, the rods are withdrawn, the setting tool is removed, and the pump is then run in on the rods. Seating is obtained by forcing the tapered seating cone on the bottom of the pump into the neoprene packer. This expands the packer cup into contact with the casing, packing off the casing and seating the pump. To pull the pump it is not necessary to disturb the packer or the anchor as the lower unit remains in the well. To change the location of the packer it is only necessary to run in the setting tool, release the anchor, and move the packer to the new position.

Axelson Float-Control Gas Anchor has as its principal feature a float tube so arranged that when a well pumps off, the float becomes empty in proportion to the lack of fluid present, and rises in direct ratio thereto. A tapered plug is assembled to the float tube, automatically beaning down the mosquito bill through which the fluid enters the pump and stabilizing production. Gas is separated from fluid by a special mesh monel wire screen affording large screen area passing fluid into the anchor chamber, but rejecting gas into the annular space between tubing and casing. Heading and intermittent pumping are eliminated as the float controls the amount of fluid made available to the pump. Fluid is constantly and uniformly produced on each stroke.



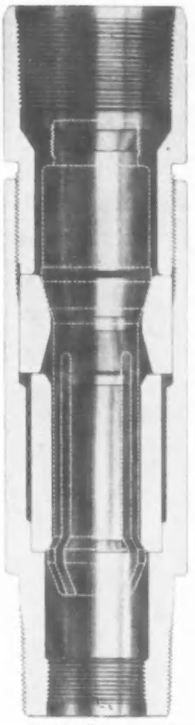
Axelson Top-Lock Hold-Down

Axelson Top-Lock Hold Down allows a stationary type rod pump to be completely suspended from its upper end, obviating the possibility of sand packing between the pump and tubing and facilitating removal of the pump, while providing anchorage by means of the heat-treated spring-prong lock. Renewable hardened and ground seating elements are provided which can be serviced or replaced. The rod guide is adjustable to allow accurate spacing of the plunger travel. A portion of the tubing immediately below the hold-down shoe is perforated, and a suitable length of tail pipe is used below the pump for separation of oil and gas.

Axelson On-or-Off Attachment for connecting or disconnecting the sucker rods at the pump is designed to provide insurance against stripping jobs in any installation. To make connection, the bowl and socket are lowered on the end of the rod string until it telescopes over the gun-breech threaded mandrel which is attached to the lower section of the rods at a point far enough above the pump to insure against sanding up. The cam unit turns the socket into proper contact with the mandrel when the rods are rotated to the left from one to two turns per 1000 feet of depth. This rotation is only to allow engagement, but not enough to cause any joints to unscrew. When engaged, the unit is described as solid as a one-piece coupling, and is sealed so that no foreign matter can enter. Disengagement is effected by setting the rods down and rotating to the right a sufficient number of turns to overcome the natural spring of the rods and cause rotation of the bowl and socket. Coupling and uncoupling may be performed as often as desired without withdrawing the pump or plunger assembly from the well.

Axelson On-or-off Attachment

Axelson Anchor Hold-Down Shoe was developed to avoid the possibility of a pump anchor leaking or becoming stuck in the shoe due to corrosion. The seat and locking spacer are made of stainless steel, hardened and ground, and each is reversible. Proper assembly is assured at all times as the shoe has a stepped bore, making it impossible to assemble the parts in incorrect relation to each other. The outside diameter of the assembly does not exceed the diameter of a tubing coupling of the size tubing on which the unit is run. The upper end is provided with a clamping collar with box thread, either plain or upset. This eliminates one tubing coupling. The lower end has male tubing thread, likewise plain or upset, with an inner thread of smaller diameter to receive the anchor pipe. The entire unit is constructed with ample seating and locking faces, which being hardened, are designed to withstand severe service for a long period without necessity for replacement.



Axelson Anchor Hold-Down Shoe

REPRESENTATIVES: J. C. Axelson, president; D. F. Axelson, vice president; D. M. Hammett, vice president, and manager of Mid-Continent Division, and J. R. Walker, assistant manager of Mid-Continent Division.

Trinity Portland Cement Company

DALLAS, TEXAS
Booths 85-86 Oklahoma Bldg.

EXHIBIT: Photographs of oil well cement manufacturing operations and laboratory testing procedure. A complete scale model of a deep well steam drilling rig.

REPRESENTATIVES: Cedric Willson, research engineer; H. J. Sessums, petroleum engineer; Jack Barnes, petroleum engineer, and J. B. Parrott, sales representative.

Madison-Kipp Corporation

MADISON, WISCONSIN
Booths 56-57 Kansas Bldg.

EXHIBIT: Complete operating display of lubricators and high-speed air tools, typical die castings, Evinrude "Zephyr" outboard motor.

REPRESENTATIVES: W. G. Coles, chief engineer, and A. T. Lillegren, sales manager.

Grant Oil Tool Company

LOS ANGLELES, CALIFORNIA
Booths 257-258 Oklahoma Bldg.

EXHIBIT: Hydraulic expansion wall scraper. Underreamer and rotary hole enlarger. Roller bearing cutter reamer. Hydrostatic bailer. Hydrostatic perforation cleaner. Liner hanger. Catline grip. Adjustable liner puller. "Lightning-Change" cement head. Roller cutter hole enlarger.

NEW PRODUCTS:

Roller Cutter Hole Enlarger consists of a body with three arms equilaterally placed thereon, with a roller cutter similar to a rock bit cutter placed on the end of each arm. Arms are strong and positive in action, and when open they are supported by a solid steel mandrel behind the arm, as well as supported against upward stresses.

REPRESENTATIVES: J. B. Shaw, general manager; Lloyd G. Ensign, export manager, and Roland E. Smith, foreign sales representative.

St. Louis Cordage Mills

ST. LOUIS, MISSOURI
Booth 89 Texas Bldg.

EXHIBIT: The company's complete line of cordage used in the petroleum industry, featuring a moving panel displaying AMCO "All-Weather" Manila rope. The booth will be elaborately arranged, with the exhibit "built-in" to fit the space.

REPRESENTATIVES: E. E. Fries and Harold V. Pate.

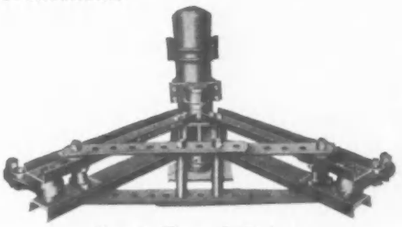
W. C. Norris, Manufacturer

TULSA, OKLAHOMA
W. C. Norris, Manufacturer, Bldg.

EXHIBIT: Swaged nipples and bull plugs with Norrisized corrosion-protective treatment. Nortex polished rods. Blue Ribbon working barrels, stuffing boxes, casing heads and braden heads. "Super-Strong" pull rods and sucker rods. Pumping equipment, including underpull pump jacks, stroke posts, rod line swings and other surface equipment.

NEW PRODUCTS:

Type L Swing is available in the conventional rigid type and the adjustable type. The two-arm is adjustable from 30 to 90 degrees, the three arm from 100 to 160 degrees, and both have a rated rod line load capacity of 8000 pounds. Oil bath rocker bearings for 7-inch or 8⅝-inch OD post and bronze bushed oil sealed pull rod connection bearings with two patented pull rod connections.



Norris Type L Swing

Underpull Jacks, Nos. 405, 407 and 408 have been added to increase the company's line to 10 sizes with rated polished rod loads from 2500 to 20,000 pounds. The jacks are equipped with adjustable side braces, adjustable saddle bearings and are bronze-bushed throughout. Working parts have been kept to a minimum.

Norris Underpull Jack

Type L Stroke Post was designed primarily for lighter wells in the Illinois Basin and is rated to handle rod line loads up to 8000 pounds. Structural channels are shielded arcwelded. It is equipped with bronze-bushed bearings and adjustable alignment features. Provision has been made for stroke multiplication when desired. Built-in knock-offs are available for the stroke post foundation, eliminating the need for individual concrete blocks. The pendulum is adaptable to a counterbalanced beam.

Norris Type L Stroke Post

Type S Knock-Off was designed to incorporate desirable features of an inverted notched bar along with a fabricated structural post. Rated for a rod line load up to 20,000 pounds, channels and gusset plates are shielded arcwelded to each other and to the main base for rigidity and to eliminate strain on rods. The bar glides on lubricated hardwood blocks.

Norris Type S Knock-Off

REPRESENTATIVES: W. C. Norris, D. S. Bowers, J. H. Eustice, E. D. Forquer, R. A. Colgin, O. R. Kinnaman, H. V. Flemming, Everett Ray, G. W. Davidson, A. W. Branscum, Henry H. Paris, Wm. R. Barney, Ray Sexton, E. B. Wilson, C. H. Benedum, C. O. Jones, J. E. Giles, E. A. Taggart, P. J. Donnelly and A. G. Thompson.

Ingersoll-Rand Company

PHILLIPSBURG, NEW JERSEY
Block J Outside

EXHIBIT: Pumps for pipe line and refinery use. Portable compressors. Small air compressors for starting Diesel and gas engines. Illustrations of direct-connected gas-engine driven oilfield compressors.

NEW PRODUCTS:

RT Pumps for pipe line use. The line includes pumps with rated capacities from 150 to 2000 gallons per minute against pressures from 200 to 1350 pounds per square inch. Built with discharge sizes of 2½-, 3-, 4-, 6- and 8-inch, they may be driven by Diesel or gas engines. They are of single-suction opposed-impeller design with horizontally split casing. Impellers are sealed against leakage by means of renewable rings. The rotor is supported by oil-lubricated ball bearings. The shaft is sealed by stuffing boxes which contain a number of rings of packing that may be arranged for grease, water or cold oil lubrication, depending upon the liquid to be pumped. Mechanical seals are also available.

Motor Improvements, Inc.

NEWARK, NEW JERSEY
Booth 17 Oklahoma Bldg.

EXHIBIT: "Purolator" filters for fuel oil and lubricating oil; types generally adapted for oil field equipment. Refinery filters. Machine tool installations. Passenger car and truck installations.

REPRESENTATIVES: T. R. Collioud, district representative; H. B. Graham, sales engineer; Ralph Layte, executive vice president; F. P. Herman, manager factory equipment sales; E. R. Searcy, district representative.

Nixdorff-Krein Manufacturing Company

ST. LOUIS, MISSOURI
Booth 17 Kansas Bldg.

EXHIBIT: Tire chains.

NEW PRODUCT:

Double-Ring Tire Chains designed for mud and muck of oil fields. The double-ring construction has been developed to give added traction in mud. The links revolve slowly when in use, automatically cleaning themselves. Features include a new side chain fastener described as stronger than the usual type of fastener and easier to open or close.

Nixdorff-Krein Double-Ring Tire Chain

REPRESENTATIVES: W. E. Dorman, sales manager; Ben Sander, Forest Eyer, Cash Dean, Harry D. Whitley and Gordon K. Morgan.

Air-Maze Corporation

CLEVELAND, OHIO
Booth 16 Texas Bldg.

EXHIBIT: Air-Maze oil bath-type filters. Multimaze air filters. Unimaze air filters. Air-Maze filter-silencers. Air-Maze panel housing assemblies or doghouses. Demonstration of functioning of oil bath-type filter.

NEW PRODUCTS:

Oil Bath-Type Filter-Silencer is a combination of the company's oil bath-type filter and an accoustical chamber. Furnished with air intake capacities up to 4000 cubic feet a minute, the unit is serviced by disassembling by removing a wing nut, emptying the bowl of collected material, and replacing the oil.

Air-Maze Oil Bath-Type Filter-Silencer

REPRESENTATIVES: A. D. Barr, southwestern representative; P. C. Hungerford, chief engineer; C. J. Glanzer, test engineer, and distributor representatives.

The Lincoln Electric Company

CLEVELAND, OHIO
Booths 201-202 Oklahoma Bldg.

Big Three Welding & Equipment Company

TULSA, OKLAHOMA

EXHIBIT: Arc-welding equipment with new features, including self-indicating dual continuous control. Fleetweld 10, Fleetweld 9-HT, Stainweld C, Manganweld B, Hardweld 50, Softweld and other electrodes will be demonstrated. Line-weld motors.

NEW PRODUCTS:

Fleetweld 10 is a heavily coated electrode of the shielded-arc type designed specifically for making the last pass in multiple-pass, down-hand welds on flat surfaces in mild steel, providing full slag coverage and an exceptionally smooth bead.

Fleetweld 9-HT is a coated steel electrode of the shielded-arc type designed specifically for flat welding of deep-grooved joints in the higher tensile steels now being used in the construction of pressure vessels.

Stainweld C is a coated electrode designed for welding stainless steels of the 18 percent chromium-8 percent nickel and molybdenum content designated as Types 316-317.

Manganweld B is a bare electrode designed for building up worn manganese steel parts of 11-14 percent manganese type. It is described as distinctive for its relatively high beads with a minimum number of passes, and a metal structure equaling in wear-resisting qualities heat-treated- cast manganese steel.

Hardweld 50 is a medium carbon-steel electrode (approximately 0.5 percent carbon) designed for building up steel parts and surfaces to resist deformation and wear, and to produce a tough, dense deposit that is machinable at slow speed.

Surfaceweld A is a fine-grained alloyed powder to be applied, in a very thin layer if desired, with carbon arc to produce a smooth, dense abrasion-resisting surface.

Softweld is a coated shielded-arc electrode designed for depositing, on cast iron, a soft alloy the entire area of which may be machined, sawed, drilled or tapped.

REPRESENTATIVES: A. F. Davis, vice president of The Lincoln Electric Company; B. K. Smith, president, C. K. Rickel, secretary, and R. L. Looney, of Big Three Welding Equipment Company, Houston.

Norma-Hoffman Bearings Corporation

STAMFORD, CONNECTICUT
Booths 7-8 Texas Bldg.

EXHIBIT: Precision-type ball, roller and thrust bearings from ⅛- to 12-inch bore

NEW PRODUCTS:

Anti-Friction Bearings up to and including 22½-inch bore which have application in heavy-duty oil field equipment.

Smaller Ball and Roller Bearings, the former including various sealed and shielded types and the cartridge-type ball bearing. The totally-enclosed bearings with removable seals are designed for a wide range of temperature conditions and a wide variety of usage where simplicity in mounting is of value.

Instrument-Type Bearings made in sizes down to ⅛-inch bore. Adapted to seismograph prospecting equipment, they are equipped with ball retainers for maximum sensitive action. They are described as the smallest manufactured in this country on a production basis for high-quality precision instrument work.

REPRESENTATIVES: T. E. Rounds, assistant chief engineer; D. E. Christopher and D. W. Robinson, sales representatives, and W. D. Anderson, engineering department.

Ralph N. Brodie Company

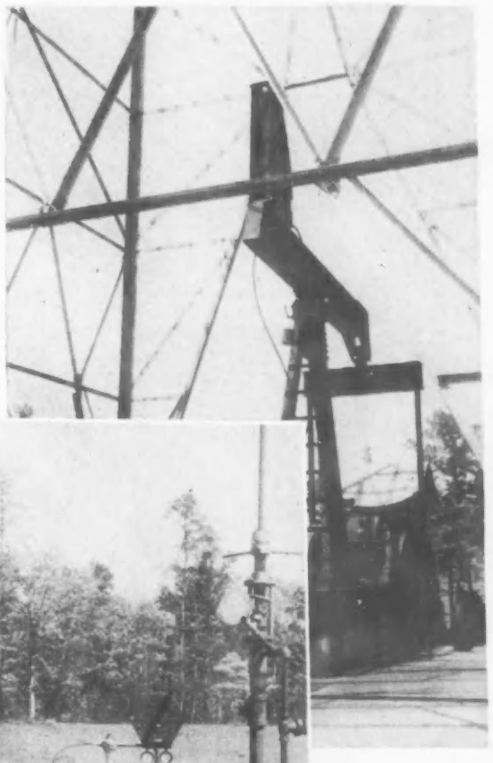
OAKLAND, CALIF.
Booths 8-9 Kansas Bldg.

EXHIBIT: Complete line of meters and metering equipment for all types of petroleum service, including oil wells, pipe line, refineries, lease tanks, main line stations, bulk storage plants, loading racks, tank trucks, etc. In addition to standard line of meters, strainers and air eliminators, flow control valves, and accessories, the Brodimatic Counter, the Brodimatic Quantrol and the Brodimatic Printer are shown.

REPRESENTATIVES: J. J. Kropp, G. F. Burnett, Warner Lewis and A. G. McNeil.

TO ECONOMY MINDED OIL MEN

Consider ACME GAS LIFT *versus Pumping*



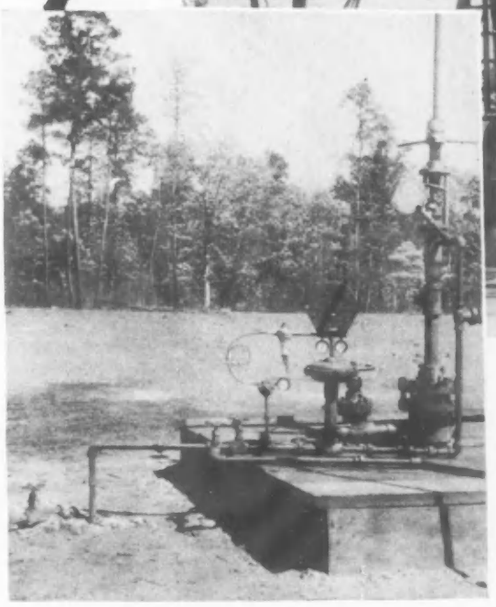
When you make this comparison, you will see how conclusive is the superiority of **ACME GAS LIFT** over pumping . . . in well after well in the Gulf Coast, Mid-Continent, and other leading oil areas throughout the oil world.

Case histories on these wells show that good pumping wells as well as bad have been changed over to **ACME GAS LIFT** and *proven to produce far more economically.*

* * *

IN THE WELL PICTURED AT THE RIGHT
as in many wells in many fields
ACME GAS LIFT GIVES THE FOLLOWING ADVANTAGES:

- ★ **Eliminates frequent servicing of well**
- ★ **Increases fluid recovery**
- ★ **Eliminates abrasion due to sand conditions on working parts**
- ★ **No back pressure against formations**
- ★ ***Reduces lifting costs***



A typical Acme Gas Lift installation in the Conroe Field.

CLOSE-UP VIEW TO SHOW THE LIFT BETTER—Above well, formerly on the beam, was changed over to Acme Gas Lift and found to produce far more economically.

ACME GAS LIFT COMPANY

1423 MAURY STREET HOUSTON, TEXAS

SEE *at the* TULSA *Show*

ON DISPLAY AT THE BOOTHS OF THE W-K-M COMPANY who are Export Agents for the Acme Gas Lift.

Mr. F. D. Reed, Chief Engineer of the Acme Gas Lift Company, will be in charge of demonstrating the ACME GAS LIFT.

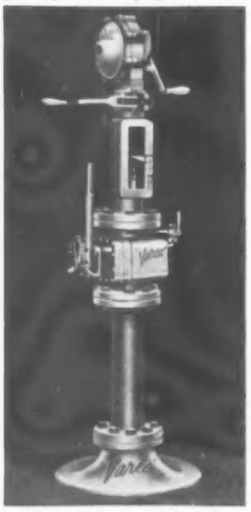
The Vapor Recovery Systems Company

COMPTON, CALIFORNIA
Booths 80-81 Oklahoma Bldg.

EXHIBIT: Tank vent units. Flame arresters. Swing joints. Tank winches. Cable brackets. Tank shell nozzles. Gauge hole covers. Manhole covers. Vapor recovery regulators. Automatic tank gauges.

NEW PRODUCTS:

Gauging and Sampling Unit—This device, known as Figure 410, permits an operator to gauge liquid levels and take spot or running samples and temperatures without losing any gas or pressure. It permits chalking or pasting the gauge tape at any point when used



Varec Gauging and Sampling Unit

in colorless fluid, and a window is provided to view the cut on the tape. The sampler and temperature bomb is interchangeable with the plumb bob, and may be opened or closed at any desired level. The sample is sealed in the pressure-tight bomb for transportation to the laboratory. The unit is available in various materials for various working pressures or corrosive conditions.

REPRESENTATIVES: Frank V. Long, Frank M. Holloway, Joe M. Greenlee and Alfred Katzenberg.

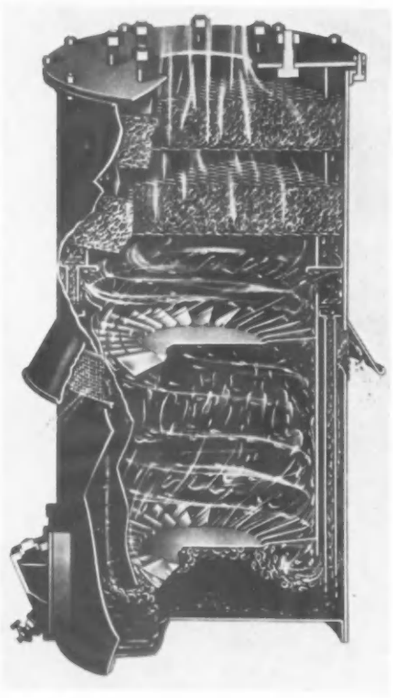
American Air Filter Company, Inc.

LOUISVILLE, KENTUCKY
Booth 83 Texas Bldg.

EXHIBITS: Two models of Cycoil oil bath air cleaners. Multi-panel automatic, self-cleaning air filter. Washable unit type air filter.

NEW PRODUCTS:

Type W Cycoil Oil Bath Air Cleaner is particularly well suited to the protection of gas engines which are sensitive to air restriction. So designed that the



American Type W Cycoil Air Filter

incoming air stream picks up a large quantity of oil and passes through a scrubbing chamber where air and oil are mixed thoroughly. By this action a high percentage of the dust content of the air is trapped in the oil, most of which is thrown out by centrifugal action before the air stream enters the filter cell. This materially reduces the dust load which the filter cell is required to handle, and insures high overall cleaning efficiency as well as continued self-cleaning action. This feature is particularly desirable during dust storms when cleaners are required to handle a high dust concentration.

REPRESENTATIVES: Wm. K. Gregory, C. C. Sowerby and H. M. Fitch.

Rodgers Hydraulic Incorporated

MINNEAPOLIS, MINNESOTA
Block L Outside

EXHIBIT: Portable kelly and pipe straightener. Hydraulic coupling salvager. Hydrostatic test unit.

NEW PRODUCTS:

Portable Kelly and Pipe Straightener is described as compact, easily handled and with a rated capacity of 100 tons. Operating by hand or power, it is designed for straightening kellys without removing from the derrick. An accessory permits straightening drill collars.

Hydraulic Coupling Salvager for removal of couplings, valves and other fixtures from old pipe without damage to the thread. Mounted on rubber with a rated capacity of 100 tons pressure, it may be had with a pipe straightening attachment.

Hydrostatic Test Unit, motor-driven with finger-tip control, is designed to permit setting and maintaining pressure at any point up to capactiy of the machine. Made in two pressure ranges, Model WT-1 is rated from 150 to 7500 pounds, and Model WT-2 from 300 to 12,000 pounds.

REPRESENTATIVES: J. S. Rodgers, chief engineer; George A. Rodgers, vice president, and J. G. Murphy, sales manager.

Viking Pump Company

CEDAR FALLS, IOWA
Booth 7 Kansas Bldg.

EXHIBIT: Complete line of rotary pumps including heavy-duty field transfer pumps, crude oil pumps, tank bottom pumps, natural gasoline pumps, naphtha pumps, road oil pumps, butane pumps, water pumps, and mineral seal pumps.

NEW PRODUCTS:

Rotary Pump—complete with revolvable casing, integral thrust bearing, re-

Viking Pump

lief valve on head, and is designed to be mounted in many styles with gasoline engine or electric motor on stationary base arrangement.

REPRESENTATIVES: Robert Wyth, and representatives of Warner Lewis Company.

Plomb Tool Company

LOS ANGELES, CALIFORNIA
Booth 51 California Bldg.

EXHIBIT: Hand tools.

NEW PRODUCTS:

Striking Wrench.

Plomb Tool's Box Spud-End Wrench

Box Spud-End Wrench.

REPRESENTATIVE: Ray Ricke.

Coffing Hoist Company

DANVILLE, ILLINOIS
Booth 27 Oklahoma Bldg.

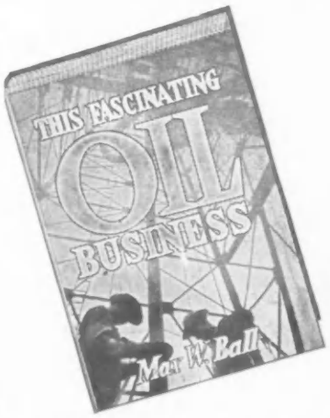
EXHIBIT: Safety-Pull ratchet lever hoists. Quik-Lift electric hoist. Power-Master gravity lowering chain hoist. Model C spur gear chain hoist. Differential hoists, trolleys and load binders.

REPRESENTATIVES: Ray Doan, southwestern district sales manager, and Harry N. Hayes, general sales manager.

SHEEHAN

PIPE LINE CONSTRUCTION CO.

NATIONAL BANK OF TULSA BLDG.
TULSA, OKLA.



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INVALUABLE
for REFERENCE
COMPLETE and
AUTHORITATIVE

Explore a vast and vital industry by reading this delightful book. Here is the fabulous story of oil from its geologic beginnings to the latest developments in aviation gasoline. Here is the world sweep of oil and its world significance, and here as well is an accurate and detailed story of each division of the industry, from exploration to the final marketing of oil's manifold products.

Profusely illustrated, carefully indexed, this book should be on every oil man's shelf of required reading. It will answer your own questions and help you answer the questions others ask you. The author, Max W. Ball, himself an outstanding authority, has had the cooperation of experts in every field of the industry.

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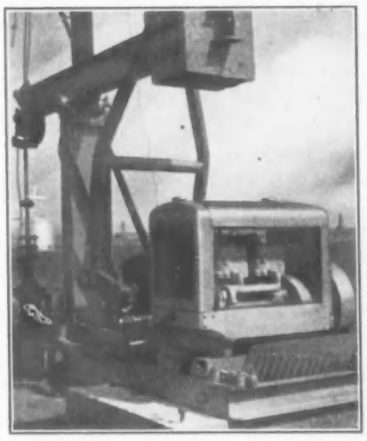
Send Orders to the

GULF PUBLISHING COMPANY

P. O. BOX 2811 HOUSTON, TEXAS

An Oil field Pumper Engine that can STAND THE GAFF!



Many an oil field man has discovered that here at last is a HEAVY-DUTY PUMPER ENGINE in the lower power range.

NOVO PUMPER ENGINES were especially built for this type of work. They are not made-over, automotive, or intermittent-duty, industrial engines, but real, honest-to-goodness oil field engines, designed by an oil field engineer and incorporating many features suggested by the oil men themselves.

And have they proved successful? Just ask anyone who has been using the new Novo Model CWP Pumper engine, and you'll hear, "There's the power unit that can stand the gaff!"

SEND THE COUPON FOR LITERATURE

Novo Engine Co., 247 Porter St., Lansing, Mich.
Send literature and prices on the Novo Pumper Engines.
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Sales by NATIONAL SUPPLY CO.

NOVO ENGINE COMPANY
LANSING, MICHIGAN

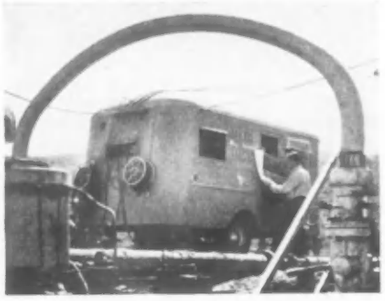
Baroid Sales Division National Lead Company

LOS ANGELES, CALIFORNIA
Booths 83-84 and 127-128 Oklahoma Bldg and Block 3 Outside

EXHIBIT: Baroid well-logging service. Well-logging instrument panel. Baroid, Aquagel, Colox, Stabilite, Smentox, Fibrotex, Zeogel, Baroco, Aquagel-cement, drilling mud products. Mud-testing equipment.

NEW PRODUCTS:

Baroid Well-Logging Service is continuous well logging during drilling without interruption of drilling operations. The bit drills up and disintegrates a circular core of the formation. Gas, oil or salt water in the pore spaces of the core when drilled are picked up by the drilling fluid. Analysis of the drilling fluid on its return to the surface and correlation with the depth from which the cuttings came makes possible determination of the formation content. An instrument panel



Baroid Logging Trailer

showing how the analyses and correlations are obtained and recorded to afford a constant and up-to-the-minute check on drilling progress and subsurface conditions will be displayed.

REPRESENTATIVES: G. L. Ratcliffe, general manager; W. L. Heater, Pacific Coast district manager; D. A. Sikes, Mid-Continent district manager; H. H. Farnham, Gulf Coast district manager, and R. W. Wilson, D. H. Larsen, L. W. Huebel, E. C. Meyer, A. A. Roberts, A. C. Smith, R. Johnston, E. E. Huebotter, H. A. Barthelow, J. M. Bugbee, R. C. Marr, G. G. Bloxsom, G. C. Wahlstrom, J. Long, N. T. Randolph, G. H. Moore and F. B. Williams.

Cabot Shops, Inc.

PAMPA, TEXAS
Frick-Reid Bldg.

EXHIBIT: T3-3S twin-crank pumping unit, 3000-pound capacity with 3-horsepower single-reduction reducer. T6-6D twin-crank pumping unit, 6000-pound capacity with 6-horsepower double-reduction reducer and Vee attachment for second well take-off. T12-15D twin-crank pumping unit, 12,000-pound capacity with 15-horsepower double-reduction reducer and bell crank attachment for two-well take-off. CT14L-22.5D twin-crank pumping unit, 14,000-pound capacity with 22.5-horsepower Cabot double-reduction reducer. T14L-20D twin-crank pumping unit, 14,000-pound capacity with 20-horsepower Philadelphia double-reduction reducer. Cabot S16L-30D single-crank pumping unit, 16,000-pound capacity with 30-horsepower Philadelphia double-reduction reducer and back crank.

Cabot Series T2 to T14 Pumping Unit

NEW PRODUCTS:

Series T2 to T14 Pumping Units, twin-crank, are rated from 2000 to 14,000-pound polish rod load with all-steel roller bearing gear reducers from 2- to 22.5-horsepower API ratings, both single- and double-reduction. Samson posts are the four-legged derrick type, integral with double I-beam base members extended for motor or engine mounting. Saddle and equalizer bearings are bronze bushed, oil bath-type. Pitmans are straight, fully equalized, with a reinforced tubular equalizer and adjustable self-aligning roller wrist pin bearings. Pitman and equalizer mountings are adjustable to take up wear and end play. Beam counterweights are regularly furnished, but combination crank and beam counterweighting is an optional extra. Gear reducers have steel housings with all roller bearings and helical gears up to 8-horsepower with herringbone gears in the larger sizes. Gears are all alloy steel, cut and hardened to API specifications. Units are furnished complete with counterweights, reducer sheave, brake, belts, belt guard, and engine or motor slide rails.

Cabot Series 14 to 25 Pumping Units

Series 14 to 25 Pumping Units, either twin- or single-crank type, are rated from 14,000- to 25,000 pound polish rod load. Reducers have alloy steel herringbone gears and are furnished in 15- to 52-horsepower double-reduction and 23- to 70-horsepower single-reduction types. Gear housings are case, split at bearing centers, with bronze-bushed slow-speed shafts and roller bearing intermediate- and high-speed shafts. In two groups, any size of reducer may be used interchangeably on any size of pumping unit, giving a wide choice of prime movers and power for extra well take-offs when desired. Saddle and tail bearings are needle- or quill-type with self-aligning oil-bath housings designed to add to the light running and reduce upkeep costs. Counterbalanced cranks with easily changed weight elements are regularly furnished, while beam counterweighting is optional extra equipment.

REPRESENTATIVES: Arthur Swanson, R. A. Baker, H. E. McCray, P. O. Gaut, R. G. Brandes and Paul L. Slonaker.

C. Lee Cook Manufacturing Company

LOUISVILLE, KENTUCKY
Booths 51-52 Texas Bldg.

EXHIBIT: Metallic rod packings and graphitic iron piston rings.

NEW PRODUCTS:

Rod Packings and Piston Rings—The products feature a new surface treatment, termed tinizing, designed to provide a surface of non-scuff, anti-friction metal to reduce initial friction, protect rod and cylinder from wear during the break-in operating period, promote quicker mating between the ring and the cylinder or rod surface it contacts, provide a safeguard against initial scuffing and galling and to add to the life of the parts with a reduction in maintenance costs.

REPRESENTATIVES: W. Woobank, F. Black and Robert E. Kirn.

Victaulic Company of America

NEW YORK, NEW YORK
Booth 90 Texas Bldg.

EXHIBIT: Victaulic pipe couplings and fittings, including the new "Coin-Pressed" metal housings, synthetic gaskets (no rubber), and "Full-Flow" pipe fittings. Motor-driven operating models under pressure and vacuum to demonstrate various qualities.

REPRESENTATIVES: M. C. Hutchinson, general manager; R. W. English, vice president; George N. LaMont, Mid-Continent distributor, and Gene McIntyre, West Coast sales.

OW DO YOU FIGURE COSTS ON OUR CASTINGS?

OST OF ROUGH CASTING?
OR
OST OF FINISHED PARTS?

VISIT OUR PLANT . . . one of the nation's most modern malleable iron foundries. Geared for **close cooperation with the oil industry** . . . and . . . **quick deliveries.**

IN ADDITION TO THIS SAVING OF 25%

. . . you have the satisfaction of giving your customers far better products because of their . . . **high ductility . . . surface finish . . . corrosion resistance.**

LEADING OIL COMPANIES PREFER MALLEABLE

FOR HIGHEST QUALITY

TEXAS FOUNDRIES Inc.

LUFKIN, TEXAS

Offices: 806 Second National Bank Bldg., Houston; 310 Thompson Bldg., Tulsa

Mine Safety Appliances Company

PITTSBURGH, PENNSYLVANIA
Booths 48-49, Oklahoma Bldg.

EXHIBIT: Skullgard-welding shield combination. One-hour oxygen breathing apparatus. Comfo dust respirators. Dustfoe dust respirators. Comfo chemical cartridge respirator. Air line respirator. Combustible gas indicator. Benzol indicator. Hand-operated carbon monoxide indicator. All-service gas masks with all-vision facepiece and with speaking diaphragm. Hose masks. Industrial gas masks. Tank gaugers masks. Skullgards. Danger signs. Safety belt. Safety clothing. Goggles. Abrasive mask. Explosimeter. First aid kits and material. Knee pads. Welders ear protectors. Dust hood. Metal fume mask. Hydrogen sulphide detector. Rheoderm apparatus for treatment of athlete's foot. Salt tablet dispensers and salt tablets. Portable drinking fountains. Hand lamps. Faceshields. Ear defenders. Oxygen recorder. Coated cover glass. Midget impinger. Fogpruf. Lamp air-mover. Fire blanket. Foille for burns. Wolf oxygen deficiency indicator. H-H inhalator.

NEW PRODUCTS:

Dustfoe Respirator has been given United States Bureau of Mines approval against type A lead dusts. It features a United States Army gas mask type exhalation valve to allow for drainage of condensation and to permit use of a deeper facepiece.

M. S. A. Skullgard-Welding Shield Combination is designed to give head protection with protection of a welding shield and is described as particularly applicable in the oil, steel, construction and shipbuilding industries where overhead hazards are general.

M. S. A. Coated Cover Glass is designed to increase efficiency of welders and cutters. The surface resists molten sparks and does not easily become pitted, allowing clearer vision.

M. S. A. Benzol Indicator is a modified combustible gas indicator that is super-sensitive to benzol, described as compact, portable and ruggedly built.

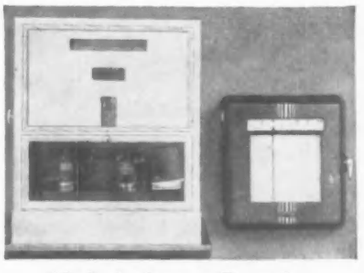
M. S. A. Midget Impinger for sampling dust atmospheres without a current or air line is described as small, compact and entirely self-contained.

M. S. A. One-at-a-Time Pocket Dispenser provides each workman with his individual salt supply wherever his job may be. A slide of the box lid automatically dispenses a single tablet, and the device is described as convenient, sanitary and time-saving.

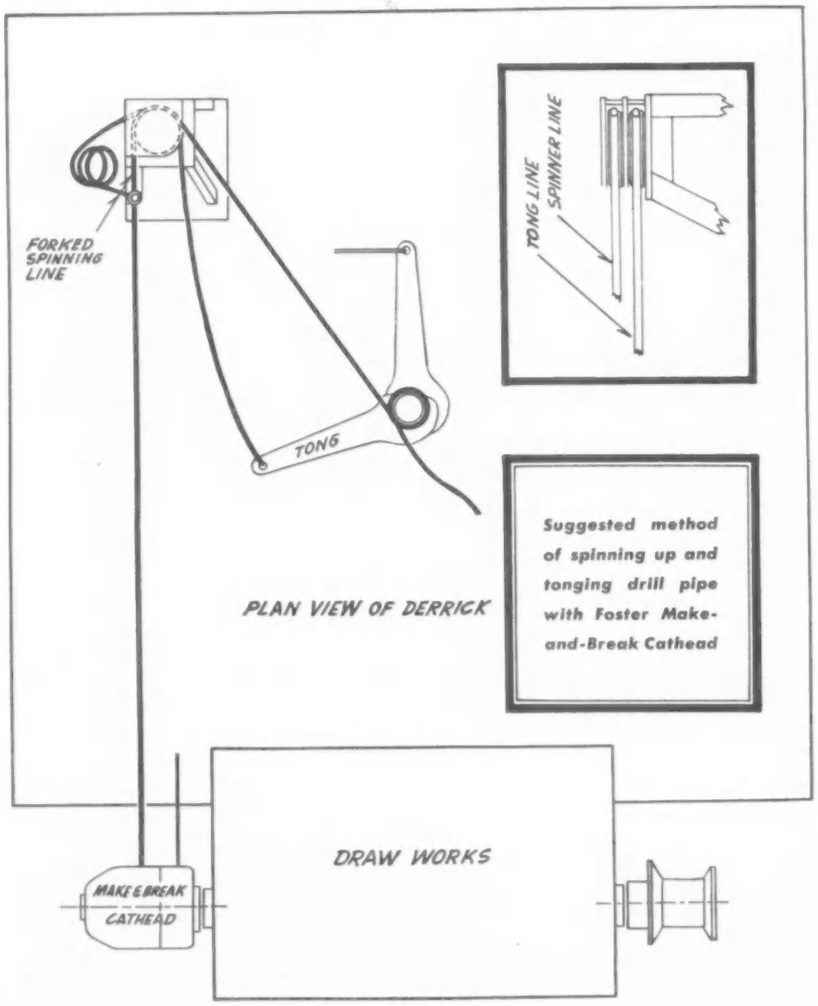
M. S. A. Displacement Blower is a refinement for M. S. A. hose masks featuring a specially-designed calibrated pressure-release valve to permit regulation of the air supply delivered to the wearer to assure a comfortable supply of air with minimum revolutions per minute.

M. S. A. Fire Blanket is packed in a metal case, 70 inches high and finished in bright red crackle. A loop of fireproofed rope extends at a convenient height from the right-hand edge of the door. In a fire emergency, the victim grasps the loop with his right hand and pulls; the door opens and the blanket moves forward as the user revolves to the left and envelops him from head to foot and smothers flame.

M. S. A. Oxygen Recorder is designed to accurately measure oxygen



M. S. A. Oxygen Recorder



The Foster Make-and-Break Cathead consists of a Foster Hi-Speed Cathead, standard type, plus a drum capable of spooling 75 feet of 1⅛" Manila rope with slack-line brake powered by Twin Disc Clutch Company's 14" Type E single disc clutch.

Insurance against cathead accidents, economy in spinning line, and increased speed are its special features.

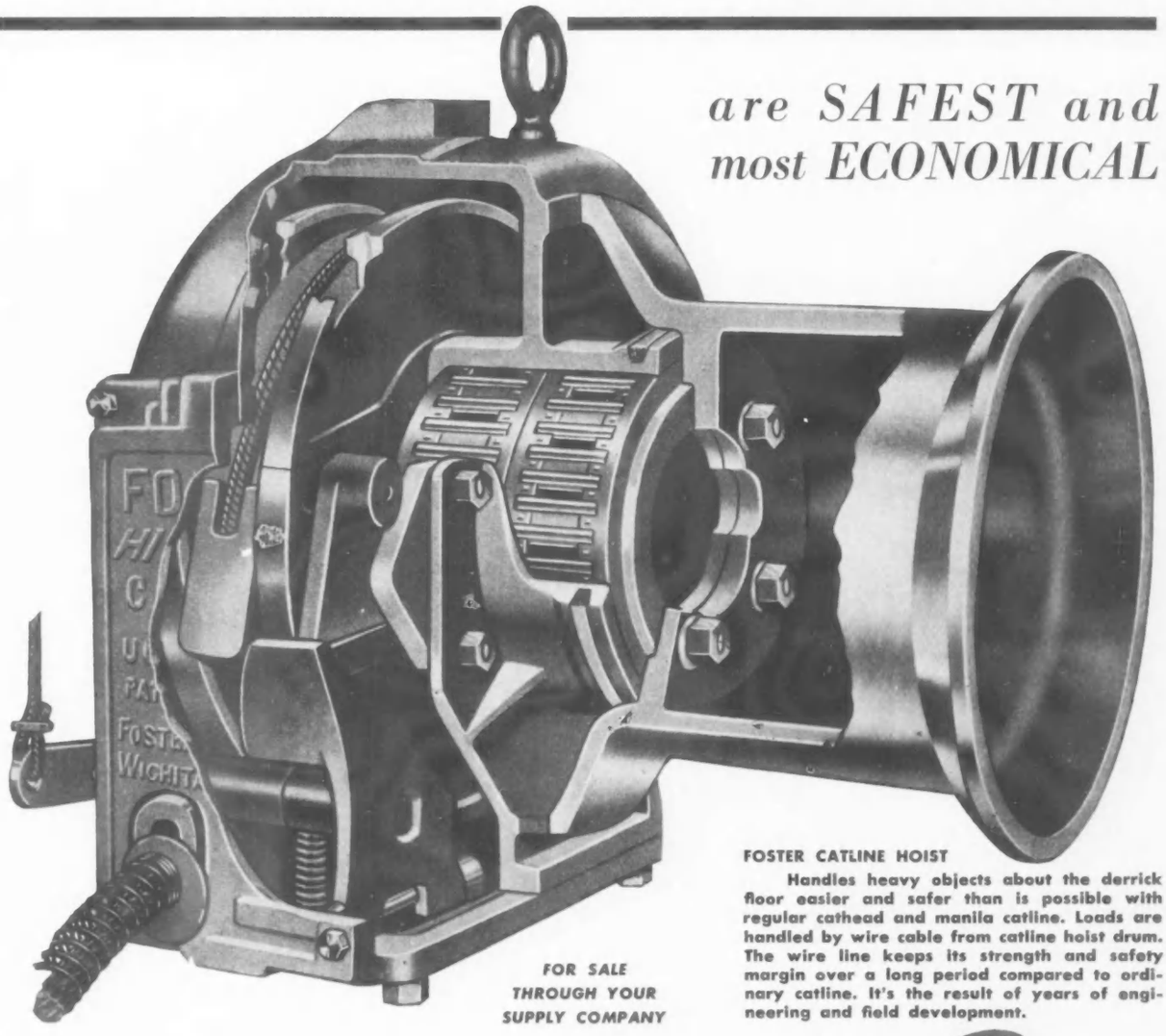
Full details gladly sent upon request.

FOSTER CATHEAD COMPANY

P.O. BOX 1675 **WICHITA FALLS, TEXAS**

Foster HI-SPEED Catheads

are SAFEST and most ECONOMICAL



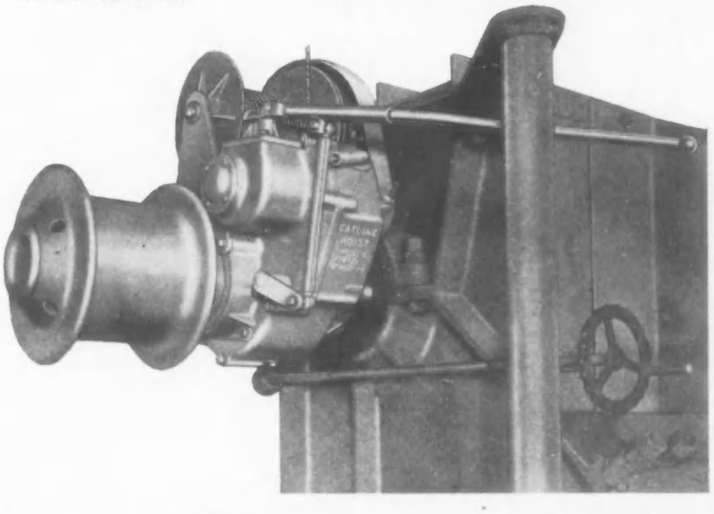
FOSTER CATLINE HOIST

Handles heavy objects about the derrick floor easier and safer than is possible with regular cathead and manila catline. Loads are handled by wire cable from catline hoist drum. The wire line keeps its strength and safety margin over a long period compared to ordinary catline. It's the result of years of engineering and field development.

FOR SALE THROUGH YOUR SUPPLY COMPANY

The Foster Junior or Standard Type Catheads (illustrated above) can be completely dismantled without removal from line-shaft. Installed either at the factory or in the field in less time than any automatic cathead on the market. All surfaces subjected to hard wear are hardened steel. All wearing parts are easily replaced without removing the cathead. It's little wonder rig manufacturers, operators and engineers accept them as the safest, fastest, most economical and practical joint breaker on the market . . . little wonder Foster is the greatest name in catheads.

***Count the Foster Catheads at the Tulsa Show.* They're standard equipment on National, Emsco and Wilson Draw Works.**



FOSTER CATHEAD COMPANY • *Box 1675* • *Wichita Falls, Texas*

content of process gases, excess air in products of combustion and air in gas transmission systems.

M. S. A. Welders Ear Protectors, made of close-woven, lightweight, non-rusting screen, leather-bound and deeply-cupped, are designed to guard the welder's ears against hazard of sparks.

M. S. A. Ear Defenders are tapered tubes molded from non-toxic, surgical-type soft rubber consisting of two barriers separated by an air space. They are designed to fit snugly in each ear, shut out air-borne noise and yet allow the wearer to hear and talk with others.

M. S. A. Faceshields are designed to assure clear vision and protection from small solid particles that are hazardous to the eyes.

M. S. A. All-Vision Facepiece for M. S. A. Gas Masks are designed to give the wearer greater comfort and efficiency with scientifically-proportioned lenses for wide-angled vision,

M. S. A. All-Vision Facepiece

fogproof construction and lighter weight.

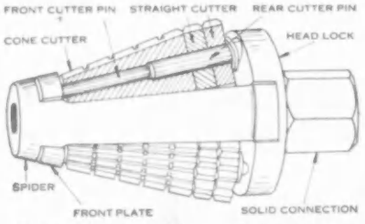
M. S. A. Rheoderm Apparatus is designed for treating fungus infections of hands and feet, such as athlete's foot. In operation, a small amount of electric current is passed under positive regulation through a bath of copper sulphate solution in which the patient's hands or feet are placed, enabling the copper sulphate to penetrate the deeper layers of the epidermis.

REPRESENTATIVES: J. T. Ryan, Jr., H. W. Richards, G. J. Gruber, H. L. Phillips and R. M. Nicholson.

Elliot Company

JEANNETTE, PENNSYLVANIA
Booths 125-126 Oklahoma Bldg.

EXHIBIT: Lagonda and Liberty tube cleaners. Mural pictures and translite photographs of steam turbines, steam engines, condensers, steam jet ejectors, water and oil strainers, and motors. Elliot power plant equipment such as deaerating feedwater heaters, turbine-generators, separators, non-return



Elliot Tapered Heavy Coke Cutter

valves, and grease extractors will be pictured.

NEW PRODUCTS:

Tapered Coke Cutter Head has proven successful in removing heavy carbon deposits. The long tapered cutting section is mounted upon two pins, allowing adjustment according to carbon thickness, and reducing pin wear. The removable front plate is made in several sizes to cope with ordinary or extreme conditions. Head is driven by thrust-bearing equipped motor.

REPRESENTATIVES: J. N. McClure, Tulsa manager; L. A. Kunzler, W. E. Widau, F. Q. Wilson, V. H. Peterson, general sales manager; W. R. Klinksiek, H. A. Pastre.

Link-Belt Company

CHICAGO, ILLINOIS
Booths 61-63 Texas Bldg.

EXHIBIT: Link-Belt Red-Hed, Hyper, Silverlink roller and Silverstreak silent-drive chains. Mud screening equipment. Anti-friction bearings, both mounted and unmounted. Power transmission equipment. Malleable iron. Promal castings.

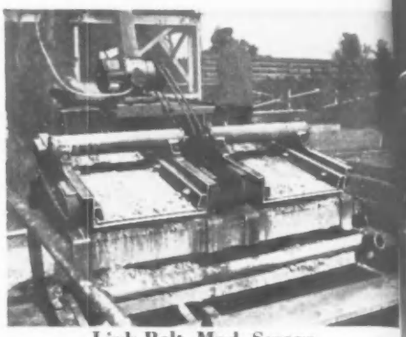
NEW PRODUCTS:

SS-124, API 4, Rotary Rig Chain is a self-lubricating three-bar Hyper rotary chain equipped with the company's patented oil-grooved drop-forged alloy

Link-Belt Chain

steel sidebar, which permits free entry of oil to chain joint and bearings. Its ultimate strength is 170,000 pounds. The joint of this chain includes a Safe-T-Head forged alloy steel pin, machined, heat-treated, ground, and fitted with cadmium plated "oil country" cotter; alloy steel roller, heat-treated, with oil hole for lubrication; and an alloy steel bushing, machined, case-hardened, and ground internally and externally, having two oil holes.

Link-Belt Dual Hook-Up Mud Screen consists of two 24 x 48-inch NRM-124 vibrating screens mounted on skids as one unit, with unitized mud collecting tank and inlet chute, and one motor driving the two screens independently. This screening unit is wired up to per-



Link-Belt Mud Screen

mit operation by attendant. The inlet to each screen is equipped with adjustable swinging gates for assuring good distribution, controlling the mud flow to screen cloth, and providing means for shutting off the flow completely.

REPRESENTATIVES: Pete Wallace, Bob Horton, Red Penick, F. S. O'Neil, C. W. Spalding, C. R. Weiss, C. V. Loughery, H. L. Strube, G. H. Woody, George Howson, Alfred Kauffmann, J. S. Watson, J. S. Holl and A. H. Boike.

The Brown Instrument Company, Division of Minneapolis-Honeywell Regulator Company

PHILADELPHIA, PENNSYLVANIA
Booths 41-42-43 Scientific and Technical Bldg.

EXHIBITS: Indicating, recording and control instruments for regulation of temperature, pressure, flow and liquid level in refinery processes. Brown pneumatic remote transmission system. Brown thermometers. Pressure gauges. Liquid level meters. Brown Air-o-line controller. Brown flow meters, electrical and mechanical. Indicating millivoltmeter pyrometers. Indicating potentiometer pyrometers with multiple key type switch panel. Brown multiple recording potentiometer pyrometers. Brown air-operated controllers including full throttler and throttler-type instruments.

NEW PRODUCTS:

Thermometers, Pressure Gauges, Flow and Liquid Level Meters in modern streamlined, rectangular case and advanced mechanical design.

REPRESENTATIVES: E. B. Evleth, vice president and general manager; L. Morton Morley, vice president and general sales manager; G. S. Younkin, Tulsa; R. P. Walker, Tulsa; M. Petty, Shreveport, R. B. Werey, Philadelphia; R. L. Mallory, Houston; E. B. Kohl, Houston; R. W. Froendycke, Houston; R. A. Weikel, Philadelphia.

The Chapman Valve Manufacturing Company

INDIAN ORCHARD, MASS.
Booths 24-25-26 Texas Bldg.

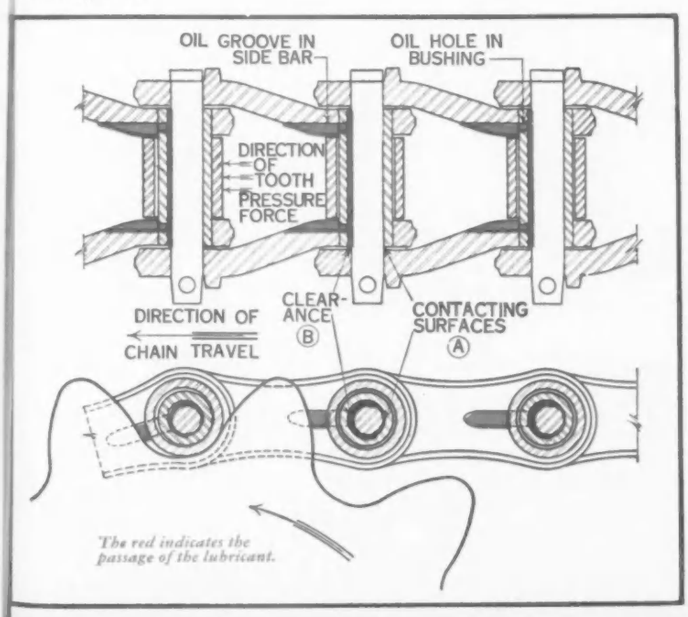
EXHIBIT: Complete line of iron, steel and alloy valves.

Again LINK-BELT Rolls Ahead

IN CHAIN IMPROVEMENTS

THIS TIME WITH THE Self-Lubricating 3-BAR HYPER

The patented oil-grooved side bar permits free entry of oil to chain joint and bearings. Note, in the sketch below, how the forces of tooth pressure and chain load act in opposite directions, making the bushing and pin contact along the line marked "A". All clearance between pin and inside of bushing is on the opposite side, along the line marked "B", permitting the lubricant to flow freely into the chain joint.


OIL GROOVE IN SIDE BAR
OIL HOLE IN BUSHING
DIRECTION OF TOOTH PRESSURE FORCE
DIRECTION OF CHAIN TRAVEL
CLEARANCE (B)
CONTACTING SURFACES (A)
The red indicates the passage of the lubricant.

Introduction of Link-Belt's Self-Lubricating 3-Bar HYPER Chain marks another remarkable step in oil country chain improvement. It is SS-124, a drop forged sidebar, A.P.I.4 rotary chain, with an ultimate strength of 170,000 pounds. It is significant to chain users that this is another Link-Belt improvement . . . for Link-Belt not only pioneered the art of chain making but pioneered oil industry chain with the coming of rotary drilling, and has continuously made chain improvements as drilling speeds, depths and loads have increased. This major improvement means added durability to an already great chain having world-wide popularity through years of successful performance.

For more details ask for Folder No. 1854.

LINK-BELT COMPANY

Indianapolis, Houston, Dallas, Los Angeles, Philadelphia, Chicago, New York. Distributors in all fields. 0110

LINK-BELT CHAINS

THE CHOICE OF EXPERIENCED DRILLERS

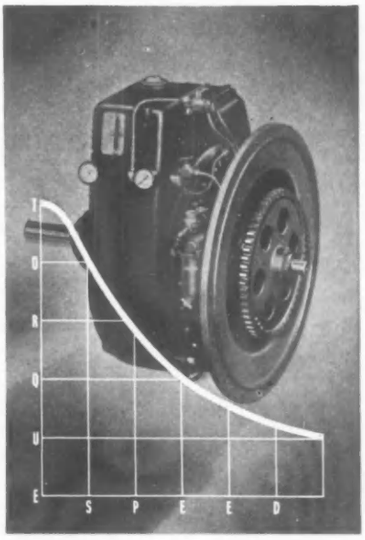
Twin Disc Clutch Company

RACINE, WISCONSIN
Booths 166-167 Oklahoma Bldg.

EXHIBIT: Twin Disc hydraulic torque converter. Power take-offs. Heavy duty friction disc clutches. Reverse and reduction gears.

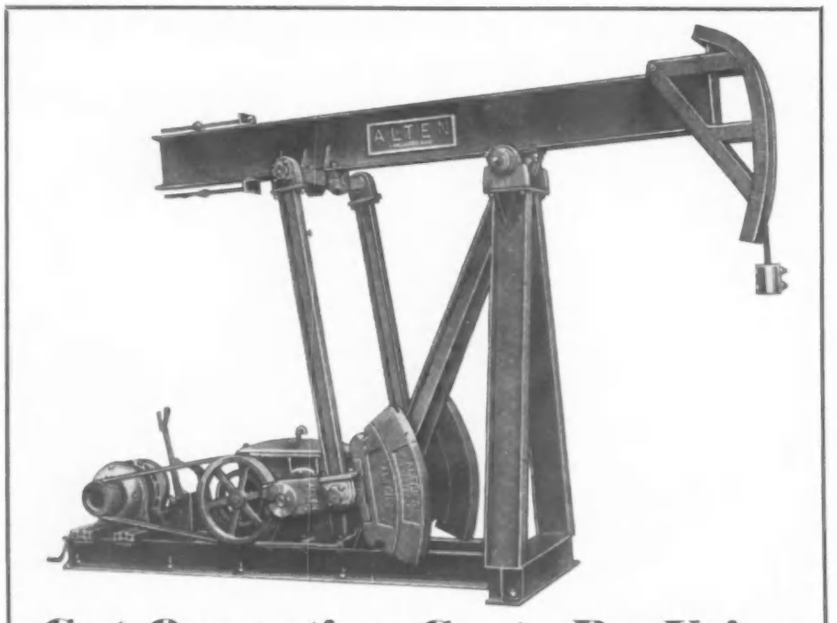
NEW PRODUCTS:

Twin Disc Hydraulic Torque Converter—This unit, when used in conjunction with an internal combustion engine, permits constant speed operation of the engine regardless of the speed of the driven unit. Makers assert that this form of power transmission gives an internal combustion engine steam flexibility, and point to their use on a number of rotary and cable tool drilling rigs and hoists. The drooping torque-speed characteristic, advantageous for starting and acceleration of heavy loads, is obtained at the output shaft of the converter in the form of high torque at low speeds, with automatic reduction as the speed increases. The engine will not stall even when extreme loads stall the output shaft of the converter. Under such conditions a maximum torque of five times engine torque is available through the converter. The converter exhibited will be in a transparent case.



Twin Disc Hydraulic Clutch

REPRESENTATIVES: From Racine are G. M. Guilbert, vice president; Soren Sorenson, vice president; N. F. Adamson, chief engineer; E. C. Billings, assistant sales manager; John H. Batten, general manager's department; R. M. Schaefer, manager hydraulic department; Roger De Long, hydraulic department; W. L. Dixon, eastern district manager; J. B. Jenkins, Mid-Continent manager; Glen Gibson, Preston Olney, W. Jacko, all of Dallas; and E. J. Christopher, J. F. Crater, both of Tulsa.



Cut Operating Costs By Using
ALTEN'S PUMPING UNITS

See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY, 18-25

In block 7, between W. Virginia Ave. & Beville Lane

They will show bigger profits this year and many years to come. Alten's Twin Crank Pumping Units are made in these sizes:

Type A- 50-TC— 5100 lbs. Capacity
Type A- 80-TC— 7500 lbs. Capacity
Type A-110-TC—11000 lbs. Capacity
Type A-140-TC—14000 lbs. Capacity

Write for Bulletins

ALTEN'S
FOUNDRY & MACHINE WORKS
Established in 1889
Lancaster, Ohio — U. S. A.
Branch Warehouse: 2120 Rothwell St., Houston, Texas
Export Office: 342 Madison Ave., New York City

District Salesmen

C. R. "BOB" STAHL
Browning Hotel
Grand Rapids, Michigan

CHAS. L. SPILMAN
1709 S. 12th St.
Mt. Vernon, Illinois

HENRY A. WINLAND
712 N. Broadway
Salem, Illinois

Continental Motors Corporation

MUSKEGON, MICHIGAN
Space P Outside

EXHIBIT: Reperesentative models of oil field power units and engine-driven generating plants. Dual engine generator plant of 100 KW rating, suitable for oil field power and lighting purposes. Small 15-horsepower completely automatic power units for air conditioning applications. The small 50-horsepower, air-cooled aircraft engine that holds the world's record for sustained flight will be shown.

REPRESENTATIVES: B. F. Tobin, Jr., executive vice president and secretary; H. E. Munson and George L. Reid, Diesel Supply Company, Joplin, Missouri; Messrs. Womack, Muse and Roots, Oriental Transmission & Packing Company, Dallas, Texas.

Spang Chalfant, Inc.

PITTSBURGH, PENNSYLVANIA
Booths 219-220, 231-232
Oklahoma Bldg.

EXHIBITS: Shrink thread drill pipe. Extreme line casing. C. W. pipe.

REPRESENTATIVES: C. R. Barton, G. E. Clifford, L. L. Brundred, H. G. Texter, A. S. Weaver, C. C. Brush, O. A. Bergmann, J. A. Kennedy, R. M. Sylvis.

Cardwell Manufacturing Company

WICHITA, KANSAS
Block F Outside

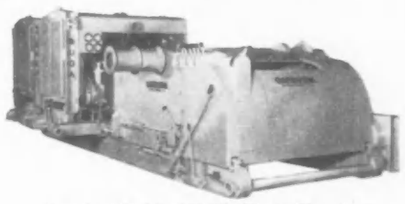
EXHIBIT: Model Y twin-engine draw works powered with two Caterpillar D-17000 engines. Model R double-drum hoist powered with a Buda JL-1335 engine. Model L draw works with hydraulic transmission powered with a Cummins HPS-600 supercharged engine. Double-drum mobil-hoist powered with a Caterpillar D-468 Diesel engine. Model H single-drum hoist powered with a Waukesha SRK engine.

At the Tulsa Machinery Company exhibit, the following Cardwell pipeline equipment will be displayed: Model PC sideboom mounted on a Caterpillar D-7 tractor, and Model V backfiller mounted on a Caterpillar D-4 tractor.

At the Caterpillar Tractor Company exhibit, a Cardwell Model PG sideboom equipped with a blade backfiller.

NEW PRODUCTS:

Twin-Engine Draw Works—This draw works, designated Model Y, is equipped with a Cardwell speed drive, consisting of air-controlled Cardwell-built friction clutches. The clutches are designed for changing from any one of 12 speeds without stopping the pump, the automatic cathead, rotary-table drive, friction clutch and slush-pump drive. Dual air compressors are standard equipment. Each engine drives individually to the friction clutches, eliminating engine power take-off clutches. Both engines may be used to either or both the draw works and pump, or either engine may be used to the draw works or the pump. The same line pull is developed by either one or two engines, but when two engines are employed, line speeds are doubled. If one engine fails, the other engine will pull the load of the drill pipe, but at one half the speed of two engines. The rotary table is driven from a friction clutch through a gear box to eliminate the unnecessary running of chains and sprockets. Rotary table speeds vary from 20 to 200 revolutions when either or both engines are employed at full speed on the pump. The complete draw works and engines may be hauled on one truck. The unit is recommended for rotary drilling to 8000 feet with 3½-inch drill pipe and to 6000 feet with 4½-inch drill pipe.



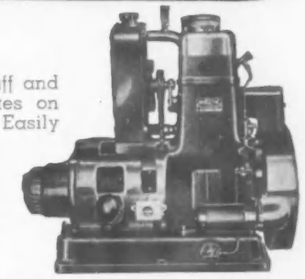
Cardwell Model Y Twin-Engine Drawworks

REPRESENTATIVES: H. W. Cardwell, Arthur Harvey, Harland Cardwell, Jr., R. B. Chapin, B. O. Beemer, H. F. Ryan, R. M. Smith, Roy Tucker, Ted Murrey, F. J. Olson, J. H. Wise, Paul Lago, W. H. Heldenbrand, Jack Grizzle, Gabor de Morvay and Srecko Kajfez.

Only 1¢ a Kilowatt Pays for Your POWER and LIGHT WHEN YOU HAVE

How much do you spend for light and power out in the field? Get a WITTE Dieselectric Plant and **spend less!** Make your own electricity for less than ONE CENT a kilowatt—and pay only for the current you produce and use. You can have convenient finger-tip control remote or at engine—or the WITTE has manual control or is completely automatic.

Witte DIESELECTRIC PLANT

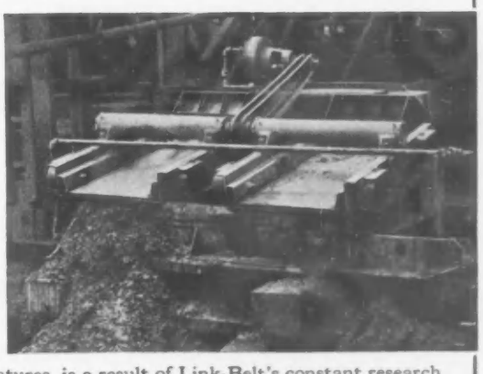


1500 to 8000 Watts—Quality built to stand the gaff and to operate without constant supervision. Operates on cheap, non-explosive fuel—reduces fire hazards. Easily started and operated by practically any employee. 1500 to 8000 watts—Vertical and Horizontal. $825 and up, f.o.b. K. C., Mo. Get a WITTE now!

SEE YOUR SUPPLY DEALER or write us for complete information.

WITTE ENGINE WORKS 196-A OAKLAND AVENUE KANSAS CITY, MISSOURI

This Dual Unit is the LAST WORD in RECONDITIONING ROTARY DRILLING MUD



Here's one of the many Link-Belt NRM-124 mud screen dual hook-ups now in use as the latest method of efficiently and economically reconditioning rotary drilling mud. These two 24″ x 48″ screens are mounted on skids as one unit, with one mud collecting tank and inlet chute. Both screens are driven by a single turbine (or motor), and easily handle the fluid of today's largest pumps . . . yet operate independently when conditions call for only one screen. This advanced design, with its many new and exclusive features, is a result of Link-Belt's constant research and improvement since introducing the oil field's first vibrating screen more than 12 years ago. Ask for detailed literature, just off the press.

LINK-BELT COMPANY Philadelphia, Houston, Dallas, Los Angeles, Indianapolis, Chicago, New York. Sold by most supply houses. 8092

LINK-BELT MUD SCREEN

Seismograph Service Corporation

TULSA, OKLAHOMA
Booths 13-14 Scientific & Technical Bldg.

EXHIBIT: Seismograph maps and records. Portable seismograph instruments incorporating electro magnetically damped galvanometers and geophones. AVC mixers. Improved control circuits. Motion pictures of seismograph exploration, domestic and abroad. Field demonstration of seismograph recording: drilling, loading of charges, setting instruments and shooting.

Seismograph Recording Truck

REPRESENTATIVES: G. H. Westby, G. F. Martin, W. G. Green, T. A. Manhart, A. J. Barthelmes, G. M. Giltinan and R. P. Green.

Minneapolis-Moline Power Implement Company

MINNEAPOLIS, MINNESOTA
Outside Space East of Scientific and Technical Bldg.

EXHIBIT: Oil field power units including, Models EUA at 25 horsepower, RUA at 34 horsepower, KUA at 46 horsepower, GUA at 59 horsepower, GUB at 59 horsepower, HUA at 92 horsepower and NEU at 210 horsepower, and Model CUB 72-horsepower engine with 40-kw generator.

Minneapolis-Moline Engine

NEW PRODUCTS:

Oil-Field Engines—Model CU is a a 4¼ x 5-inch 6-cylinder engine developing 70 horsepower at 1275 r.p.m., and Model HU is a 4⅝ x 6-inch 6-cylinder engine developing 85 horsepower at 1075 r.p.m. The engines feature cylinders and heads cast in pairs, oil wash breathers and air cleaners, Jadson exhaust valve inserts, Donaldson crankcase ventilators, and bases built of heavy plates with oil capacities from 2½ to 8 gallons. Enclosures are designed to give the units ample protection, and side covers are center-hinged to allow for maximum ventilation while giving protection against elements.

REPRESENTATIVES: D. J. Shrimpton, Carl Hample, Frank Vance, F. N. Langham, W. D. Barry, S. O. Hall, A. W. Lavers, L. E. Petter, N. R. Ness and E. S. Clark.

Farrell-Birmingham Company

ANSONIA, CONNECTICUT
Booth 191 Oklahoma Bldg.

EXHIBIT: Gearflex couplings. Sykes herringbone gears. Sykes comparator for measuring gear teeth. Photographic translites showing installations of gear units in oil-field service and showing manufacture of products. A Sykes gear generating machine is in operation at National Supply Company's exhibit.

REPRESENTATIVES: A. G. Kessler, vice president, and John Brandt, sales engineer.

Well Machinery & Supply Company

FORT WORTH, TEXAS
Block 7 Outside

EXHIBIT: Jumbo D Fort Worth Spudder.

NEW PRODUCT:

Jumbo D Fort Worth Spudder has a chain-driven sand reel, 52-foot mast, combination drilling and shear pole head, and weighs 24,000 pounds. With a rated drilling capacity of 3500 feet, it is designed for drilling in the shallower areas, for drilling in behind rotaries, clean-out work and lease maintenance. The machine has ball and Timken roller bearings at all vital points, clutches are of external friction type, shafts are of alloy steel, tool line spools are in the center of the drum to assure even spooling of line, brake bands are double asbestos-lined and operated on an equalizer to keep the same pressure applied with both bands at all times, main sills constructed of long leaf southern pine are re-inforced both top and bottom with steel to add strength and to establish a steel base for bearings that carry the various drums. Alemite lubricating system is employed to provide positive lubrication to all bearings.

REPRESENTATIVES: H. G. Parr, general manager; W. B. Brown, vice president; W. J. Brown, sales manager for oil country products; Fred Eustace, engineer; Charles Hobart, engineer, and R. L. McCann.

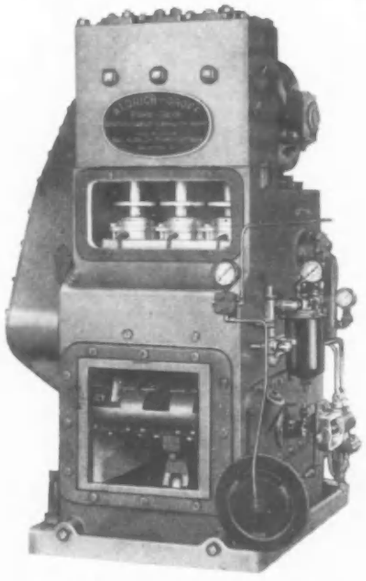
The Aldrich Pump Company

ALLENTOWN, PENNSYLVANIA
Booth 32 California Bldg.

EXHIBIT: Aldrich-Groff Powr-Savr pump. Vertical triplex-type pump.

NEW PRODUCTS:

Aldrich-Groff Powr-Savr Pump is of the variable-stroke vertical triplex-type, designed for still-charging, pipe-line, boiler-feeding, steam-desuperheating and similar service. It is described as capable of handling pumping problems involving highly viscous or light liquids under high pressures or temperatures requiring variable capacities by pressure, temperature or liquid-level variations. The pump is of constant-speed variable stroke design utilizing constant-speed AC motors or steam turbines. The running gear is enclosed in an oil-tight frame, and bearing points are pressure-feed lubricated to adapt the pump to exposed installations for continuous service at a minimum of maintenance.



Aldrich-Groff Powr-Savr Pump

Vertical Triplex-Type Pump is designed for water-flooding operations and is equipped with porcelain plungers.

REPRESENTATIVES: Lloyd T. Gibbs, Tulsa representative; L. T. Borneman, sales manager, and J. E. Groff, development engineer.

Hercules Motors Corporation

CANTON, OHIO
Booths 76-77-78 and 133-134-135 Oklahoma Bldg.

EXHIBIT: Complete line of engine and power units in both gasoline and Diesel types. The display will include 2-, 4- and 6-cylinder models.

NEW PRODUCTS:

Dix Diesel Engine and Power Unit—This new series of two-cylinder, high-speed, heavy-duty Diesel engines and power units was designed primarily for hand starting, a large flywheel and and effective decompression device built into the cylinder head being a feature. The fuel pump and governor are incorporated in the design of the cylinder block itself. The replaceable fuel plungers are driven by the engine camshaft. An enclosed but accessible governor is mounted on the camshaft gear. There are only three gears in front of the engine, these being crankshaft, camshaft, and lubricating oil driving gears. The timing gear housing, tappet and rocker arm compartment are air-tight and sealed from the crankcase. This series is made in the 3¾-, 4½-, 4-by 4½-, and 4¼-inch by 3-inch sizes.

Model BXB Gasoline Engine—This new two-cylinder engine is a 2⅞ by 3-inch type, with a maximum torque of 28 pounds-feet at 1200 revolutions. The crankshaft is counterbalanced to compensate for the full amount of the rotating mass, plus 45 percent of the reciprocating mass, making for smooth two-cylinder operation.

"Power Package" Replacement Engine—This replacement engine is for 1940 and earlier models of Ford trucks.

DFX Six-Cylinder Diesel Engine—This new engine is available in the 5 x 6, 5¼ x 6 and 5½ x 6 bore and stroke models. It is furnished in horizontal, on-the-angle and vertical models. Among other interesting features is the use of an oil tank built directly into the oil pan.

REPRESENTATIVES: A. B. Wehling, manager Houston and Kilgore branches; Charles Balough, John C. Keplinger, Charles P. Weekes, Fred C. Goldsmith, R. J. Scott, E. A. Haskins, George W. LaSalle and D. W. Latta.

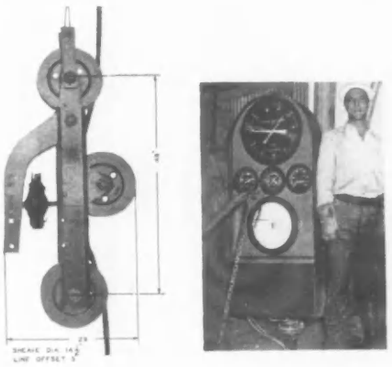
MacClatchie Manufacturing Company

COMPTON, CALIFORNIA

Hake Tool Company

HOUSTON, TEXAS
Booth 79 Scientific & Technical Bldg.

EXHIBIT: Slush pump liners, hardened and ground. Wearever pump piston. Hardened and ground piston rods. Airfloat slush pump valves. Pullers, seat and liner. Quick-Change cement heads. Quick unions. Adjustable and non-



Diaphragm Carriage Instrument Board MacClatchie Weight Indicator

adjustable flow nipples. Plug valves, plastic packing type. Gearomatic cat-heads. Christmas-tree hookups, compact type. Blowout preventers. Three-cone wall cutters. Hydraulic three-blade wall scraper. Rotary underreamers. Weight indicator. Safety equipment for derricks, including steel fingerboard, sliding platform and monkey guard. Geared brakes.

NEW PRODUCTS:

MacClatchie Weight Indicator has no clamps attached to the line, leaving the line free to move through a carriage in either direction at all times. Lower sheaves are machined to accommodate any line from 1- to and including 1¼-inch. The instrument board has all gauges necessary for accuracy in deep-drilling.

REPRESENTATIVES: Herb Hake, Hugh Robinson, P. D. Long, Ed McCabe and Mr. Fatjo.

Pyrene Manufacturing Company

NEWARK, NEW JERSEY
Booths 38-39 Oklahoma Bldg.

C-O Two Fire Equipment Company

NEWARK, NEW JERSEY

EXHIBITS: Super Phomaire play pipe, model PP31. Vaporizing liquid, foam, soda-acid, anti-freeze and gas cartridge type extinguishers. Pyrene tire chains. Carbon dioxide extinguishers. C-O-Two carbon dioxide type portable extinguishers. Hose reel and rack units. Manual and automatic systems. 50 and 75 lb. carbon dioxide portable wheeled units.

NEW PRODUCTS:

Super Phomaire Play Pipe, Model PP31—Capable of making 1000 gallons of fire-smothering foam per minute from only 3 gallons of Phomaide solution, 55 gallons of water, and air. It is the largest of three portable foam-making water nozzles operated by an entirely new method—mechanically rather than chemically. Requires only one man at the nozzle and automatically combines water, air and solution in the proper proportions without adjustments or moving parts.

50 and 75 lb. Carbon Dioxide Portable Wheeled Units—Featuring rubber tired wheels for easier and quicker movability and hinged metal covers for hose and horn protection against dust, dirt, adverse weather conditions, and for improved appearance.

REPRESENTATIVES: J. P. Maloney, general field sales manager; W. L. Ferrier, Chicago district manager; B. F. Covington and B. S. Allen, sales representatives.

The Buckeye Traction Ditcher Company

FINDLAY, OHIO
Block 102 Outside

EXHIBIT: Model 12-A wheel type ditcher. Model 410 portable boom-type ditcher. Clipper full-swing convertible power shovel. Bulldozer. Forty-year-old trencher.

NEW PRODUCTS:

Model 12-A Wheel-Type Ditcher features a simplified power transmission and a new bridge-type rotary wheel hoist frame. The unit is designed for the shallower depth of present-day lines and is described as having higher digging speeds, greater flexibility and simpler construction.

Model 410 Portable Boom-Type Ditcher is designed for close-in work on gathering line installation.

REPRESENTATIVES: W. H. Schomburg, president and general manager; Paul B. Cochran, sales manager; H. Hollmann, E. C. Swartz, N. G. Livingston, and Frank P. Lawler, engineers.

Oil Country Specialties

COFFEYVILLE, KANSAS
Mid Continent and Oklahoma Drive

EXHIBITS: Two pumping units operating with electric motors. 100 horsepower double reduction pumper reducer. Miniature size 5 horsepower pumper reducer. Service winch. Pumper reducer working model in miniature.

NEW PRODUCTS:

Service Winch—This new type unit is displayed at International Harvester Company's booth.

Dallas Tank and Welding Company, Inc.

DALLAS, TEXAS
Lot R Outside

EXHIBITS: Butane-Propane skid tank. Butane-Propane fuel tank. Economy Butane-Propane underground system.

NEW PRODUCTS:

1300 Gallon Capacity Butane-Propane Skid Tank for use on oil drilling rigs.

REPRESENTATIVES: W. W. Banks, Mrs. Jewell M. Banks, W. W. Gibbons, Mrs. Sue Gibbons.

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Janney Cylinder Company

PHILADELPHIA, PA.
Booth 53 Texas Bldg.

EXHIBIT: Finished machined centrifugal castings made of Ni-resist iron and Supard-chrome steel. Several types of hot oil pump plungers, gasoline meter liners, shaft sleeves for centrifugal pumps and Diesel engine liners.

NEW PRODUCTS:

Supard-Chrome Steel Plunger—This centrifugally cast device has an exterior Brinell hardness of 550 which extends for a depth of about ⅛-inch, decreasing toward the center hole to about 200 Brinell. It is designed to be water-cooled, offering the advantage of a soft, ductile metal in contact with the cooling water and a hard, corrosion-resistant metal in contact with the packing of the pump and any corrosive oils. The plunger is designed to withstand temperatures up to 800 degrees without softening.

REPRESENTATIVES: C. R. Spare, vice president and sales manager, and S. E. Doughty, metallurgical engineer.

Merck & Company

RAHWAY, NEW JERSEY
Booth 80, Scientific and Technical Bldg.

EXHIBIT: Chemical reagents for the oil industry.

REPRESENTATIVES: J. A. Falke and A. F. Frantz.

Duff-Norton Manufacturing Company

PITTSBURGH, PENNSYLVANIA
Booths 62-63, Oklahoma Bldg.

EXHIBITS: Four-way general purpose jack. Lifting jacks for all purposes, including automatic lowering jacks, ball bearing screw jacks, bell bottom screw jacks, ratchet jacks, self lowering jacks.

NEW PRODUCTS:

Four Way General Purpose Jack—A chain-type unit which combines straight lifting with chain, hook and foot lifting, plus the usual head lifting. Built for heavy duty but extremely light-weight for its capacity. A hinge or pivoted base permits the jack to be operated from any angle for shoving, pushing and like operations. Four improvements on the unit are: base casting made stronger by additional ribbing; position of the fulcrum altered to bring about greater ease of operation; pitch of the rack teeth changed to permit easier jacking; new automatic lowering mechanism and use of triple-toothed steel pawls for safer, smoother operation. All working parts are fully enclosed and protected. The inside mechanism is of the utmost simplicity, with no machine screws or parts to come loose or get out of adjustment. The spring mechanism is contained in a housing which can be removed bodily for inspection and replacement. A steel chain fits into slots on top of the jack, and is used as a sling to engage various objects. A double socket lever aids effective operation in close and cramped quarters. It is built in five and fifteen ton capacities.

Duff-Norton Four-Way General Purpose Jack

REPRESENTATIVES: C. N. Thulin, E. E. Thulin and H. C. Gardner.

DeBothezat Ventilating Equipment Division of American Machine and Metals, Inc.

EAST MOLINE, ILLINOIS
Booth 48 Kansas Bldg.

EXHIBITS: Air-moving equipment including giant fan units, "power Flow" roof ventilators, DeBothezat bifurcator, DeBothezat Axial-flow fans.

NEW PRODUCTS:

Six Foot Giant Fan Units—Used on cooling towers and heat-exchangers for recycling and repressuring plants. Ruggedly built to move large amount of air per horsepower at lower speeds. Has a non-overloading power characteristic.

REPRESENTATIVE: A. M. Harp, central sales manager.

DeBothezat Axial-Flow Giant Fans

Allen-Bradley Company

MILWAUKEE, WISCONSIN
Booths 123-124 Oklahoma Bldg.

EXHIBITS: Solenoid motor control. Motor starters for polyphase and single-phase motors, including Bulletin 709 across-the-line starting switch, reversing switches, multi-speed motor starters, resistance-type starters, transformer-type starters. Combination starters with both air-break and oil-immersed enclosures. Control units including contactors, push button stations, limit switches, motor plugging switches, shipper-rod switches, float switches, alternating-current solenoids, and overload relays of the thermal and magnetic types. Electro-permanent magnet.

NEW PRODUCTS:

Electro-Permanent Magnet—This magnet employs a device for holding the contactor closed without keeping the contactor coil energized. It eliminates levers and latches. Demonstrated by a 100-ampere Bulleting 102 a-c contactor.

REPRESENTATIVES: Allen K. Wolfe, sales engineer, Milwaukee; Frank Hodik, electrical engineer, Milwaukee; Paul Berry, district representative, Oklahoma City.

Joseph A. Coy Company

TULSA, OKLAHOMA
Booth 6 Scientific and Technical Bldg.

Daniel Orifice Fitting Company

LOS ANGELES, CALIFORNIA

Yarnall Waring Company

PHILADELPHIA, PA.

EXHIBITS: Pressure gauge repairing service. American Aschroft gauges. Consolidated oil relief valves. Consolidated safety valves. Daniel orifice fittings. Daniel vapor pressure bombs. Daniel butane bombs. Daniel manometers. Yarway impulse steam traps.

NEW PRODUCTS:

Factory Method Gauge Repairing Service—A service heretofore not available in the Mid-Continent area, on all makes and types of indicating pressure and vacuum gauges. Pressure gauges completely checked, reconditioned and reassembled. Also, various types and specifications of socket tube and tip assemblies and movement and movement linkage demonstrated. The gauges are not repaired, but **reconditioned** to the extent that a new gauge guarantee on all gauges serviced, can be given.

REPRESENTATIVES: J. A. Coy, J. A. Knebel, W. D. Perry, A. L. Day, from Joseph A. Coy Company.

From Daniel Orifice Fitting Company: Paul P. Daniel, J. G. Holdenried, R. C. Flourney, Glen W. Daniel.

From Yarnall Waring Company: Roger A. Martin and C. A. Cowles, Jr.

Oil Well Supply Company

DALLAS, TEXAS
Oil Well Bldg.

EXHIBIT: Extensive and diversified displays of new and improved equipment for drilling and producing operations.

REPRESENTATIVES: Several executives, district sales managers, field engineers and sales representatives.

Square D Company

MILWAUKEE, WISCONSIN
Booths 74-75 Oklahoma Bldg.

EXHIBIT: Power panelboards. Lighting panelboards. Circuit breakers. Industrial safety switches. Automatic starters and controllers. "MultibreakeRs" and "MultibreakeR" panelboards.

REPRESENTATIVES: F. H. Roby, Milwaukee factory representative; N. J. Driscoll, Chicago district manager; Ray Walker, Little Rock branch manager; W. E. Neal, Oklahoma City representative.

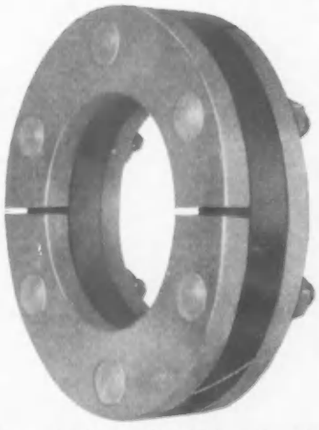
Dresser Manufacturing Company

BRADFORD, PENNSYLVANIA
Booths 261-262 Oklahoma Bldg.

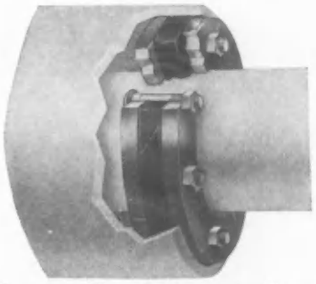
EXHIBIT: Couplings and pipe-line repair devices for construction and maintenance of field and transmission lines, with specific information on salt-water disposal lines, cathodic protection, well insulation and piping, and a new-type casing bushing. Included will be a demonstration of a flexible pipe joint on a pipe line maintained at 100 pounds pressure, with an eccentric moving the joint through a 4-degree arc. A counter will record the number of deflections.

NEW PRODUCTS:

Dresser Casing Bushing provides a seal for the ends of a protective casing through which a pipe line runs, consists of two halved steel rings with a rubber-compound gasket bolted between them. As bolts are tightened, the gasket expands outwardly against the inside of



Dresser's Style 83 Casing Bushing



Cutaway View Showing Application of Casing Bushing

the casing and inwardly against outside of pipe to make a tight seal against both. The bushing is recommended for any line where protective casing is used, as under a railroad track, highway, embankment, or as across a swamp, canal, irrigation ditch or stream. It is designed to seal out dirt, debris, weeds, small animals and corrosive water from the inside of the casing; to float pipe line in casing by absorbing vibration and shock from passing trains and traffic, and to center the pipe line in the casing. Four types to meet varying field conditions are available.

REPRESENTATIVES: M. N. Davis, executive vice president; H. P. Boncher, sales manager; C. T. Davis, district manager, and H. R. Shidel, district manager in the Oil-Field Division.

Diamond Chain Manufacturing Company

INDIANAPOLIS, INDIANA
Booths 11-12 Scientific and Technical Bldg.

EXHIBITS: 24 strand ¾-inch pitch finished steel roller chain drive. Chain driven clock. Various sizes of regularly used oil country chains.

NEW PRODUCTS:

Steel Roller Chain Drive consisting of a 30-tooth driver sprocket, a 90-tooth follower sprocket, uses 8 feet of ¾-inch pitch x 24 strands wide press fit center plate chain on 24.433-inch centers. Pump lubricated with individual streams of oil flowing on all center plates. Has maximum of 1750 revolutions on the 30-tooth sprocket and capable of transmitting the following rated loads: 310 horsepower at 500 revolutions, 470 horsepower at 1000 revolutions, 540 horsepower at 1500 revolutions, 550 horsepower at 1750 revolutions. Center distances limited only by the space required for the two sprocket outside diameters to clear each other. Finished steel roller chain drives manufactured by this company from ⅜-inch to 2½-inch pitches inclusive and having any numberof strands up to and including 24 inches wide.

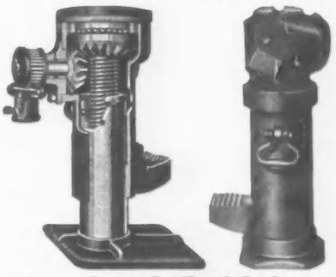
Chain Driven Clock completely driven by Diamond roller chains, with standard ⅜-inch and ½-inch pitch. It is enclosed in a transparent plastic housing and mounted on a chromium plated steel base. A 1/150 horsepower synchronous motor drives the movements through a compact chain reduction. The reduction from motor shaft to the hour hand shaft is 129-600 to 1, requiring only seven chains for the reduction. No sprocket is larger than 3½ inches outside diameter nor smaller than 1⅝ inches outside diameter.

REPRESENTATIVES: J. L. Wamsley, W. A. Warrick.

The Joyce-Cridland Company

DAYTON, OHIO
Booths 49-50 Texas Bldg.

EXHIBIT: Lifting jacks. Hydraulic jacks. Standard speed screw jacks. Self-lowering jacks. Emergency jacks. Garage jacks. Hydraulic bumper jacks. Auto lifts. The new Joyce "Conservitaire" air power unit and new Auto-Sway jack.



Joyce-Cridland Jacks

REPRESENTATIVES: Huster Brown, vice president; H. B. Burlow, district manager.

Thompson Pump Company

OKMULGEE, OKLAHOMA
Booth 132 Oklahoma Bldg.

EXHIBIT: Thompson sand proof oil well pumps, both in inverted and hold-down types for all field conditions. Seating devices for different well depths. Combination rod guides and paraffin scrapers. P. and T. B. type and dump type pumps for bad sand conditions.

REPRESENTATIVES: R. D. Thompson, Frank Wilcom, James F. Steely, L. D. Hawkins, Al. Gionta and L. R. Herman.

Ensign Carburetor Company

HUNTINGTON PARK, CALIF.
Booth 42 California Bldg.

EXHIBIT: Natural gas, butane and gasoline carburetion equipment.

NEW PRODUCT:

Model R Butane-Regulating Unit is designed for small engines and trucks and combines a pressure-regulation and vaporizing unit with a butane fuel regulating unit.

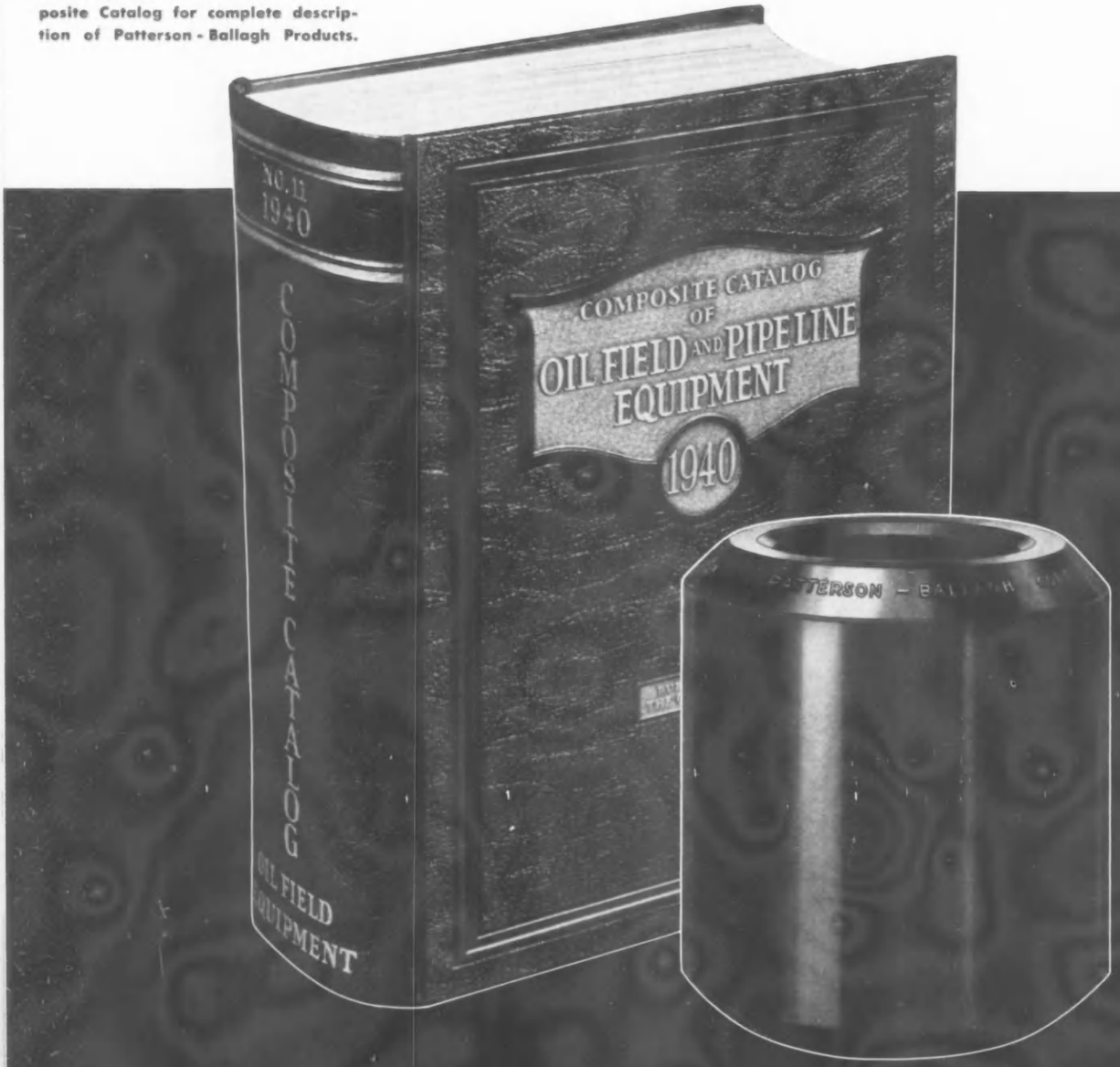
REPRESENTATIVES: Paul W. Ensign, Ralph G. Abbott and A. W. Schuller.

...2 places

where you can always see the Products of PATTERSON-BALLAGH:

1. *In the Composite Catalog*
2. *In any active oil field*

See pages 1936 to 1953 of Composite Catalog for complete description of Patterson - Ballagh Products.

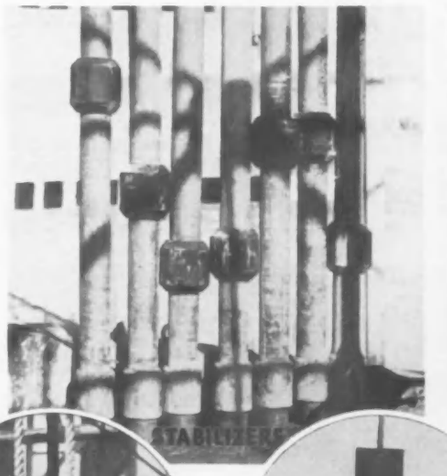


Put a crimp in your drilling costs with

PATTERSON-BALLAGH

OIL FIELD SPECIALTIES

Every one a tested success, backed up with real field service



SUPER UNIVERSAL MUD GUN

The rubber used in Patterson-Ballagh Protectors and other Products has won world renown by reason of its extreme durability, toughness, tenacity and abrasion resistance. It is compounded in our own plant to specifications found best suited to oil field service. The majority of the world's deepest wells have been drilled with the aid of Patterson-Ballagh Protectors and Stabilizers.

PIPE WIPER

Patterson-Ballagh Pipe Wipers keep mud from coming up on derrick floor; they catch anything that falls. Should be used going in or coming out. P-B Mud Guns insure proper mixing of mud. P-B Wire Line Guides stabilize the line, assure proper spooling; lengthen life of line. P-B Wire Line Wipers keep sand line or fishing line clean. All are spark-proof.

PATTERSON-BALLAGH CORPORATION
General Offices and Plant: 1900 E. 65th Street, Los Angeles, Calif.
Mid-Continent Office: 1506 Maury Street, Houston
New York City Office: 92 Liberty Street

Thermoid Company

TRENTON, N. J.
Oil Well Supply Bldg.

EXHIBIT: Completely improved line of rotary hose.

NEW PRODUCTS:

Thermoid Built-In Coupling Rotary Hose—Improved methods in precision controlled machine application of reinforcing wire are said to assure uniformity and minimum of elongation or contraction. The new line includes a hose in each of four constructions—for initial test pressures of 7500 pounds, 5000 pounds, 4000 pounds and 3000 pounds. Each of these types is available with Neoprene tube where oil is to be circulated through the hose. Another important feature is the use of built-in couplings when desired. This coupling provides a smooth, uninterrupted flow, supplies strong reinforcements to the end sections, and eliminates coupling leaks and failure. The complete unit is light in weight. The head of the coupling rod is replaceable easily.

Industrial Engineering Company

HOUSTON, TEXAS
Booths 203-204 and 247-248
Oklahoma Bldg.

EXHIBIT: Section of pipe coated with Somastic for exterior protection of pipe lines against soil corrosion. Methods of applying Somastic. Complete line of Fiberglas insulation products.

NEW PRODUCTS:

Portable Somastic Application Equipment was designed for the purpose of making it possible to apply coating at the job site. The equipment consists of aggregate dryer, material bunkers, weighing equipment, skip hoist, aggregate heaters, pug mills for mixing material, asphalt heater, heated screw conveyor system, extrusion nozzle for application of coating to pipe, and drive for driving pipe through nozzle. Power is furnished by Diesel electric generators, and pipe is handled by sideboom tractors. The entire unit is portable and flexible in that it can be moved to job site and be set up in a very short time. Couplers are used between each joint of pipe so that a continuous stream of pipe is fed through the coating nozzle, thus allowing the continuous application of coating without seams or joints throughout each joint of pipe. After coating, the ends of each joint are trimmed back to allow for field welding. After welding in the field, the Somastic field joints are applied by casting the material on the pipe with a steel field joint form.

REPRESENTATIVES: S. D. Bechtel, John A. McCone, H. C. Price, C. A. Banks, W. W. Colley, Charles A. Flannery, C. B. Snead, John H. Conroy.

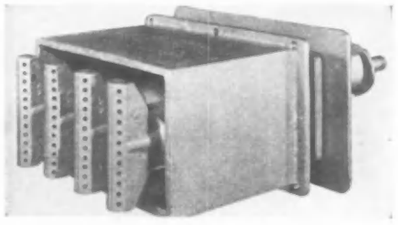
The Webster Engineering Company

TULSA, OKLAHOMA
Booths 22-23 Oklahoma Bldg.

EXHIBITS: RD series combination gas and oil burners. 900 series vertical and horizontal gas burners. F600 series low pressure vertical burners. VI series high pressure inspirator burners. Webster "Varivalve" control equipment.

NEW PRODUCTS:

Webster Series 900 Pre-mixing Burners for both horizontal and vertical firing are parallel groupings of a unique rectangular burner head. Secondary air distribution to all burner parts is equal, eliminating "high center" unequal flame. Burner heads can be renewed easily. Single heads can be replaced at small cost. These burners can be adapted to any BTU value gas fuel. Within reasonable limits, the BTU can be varied on a burner and compensated for by changing the pressure on the inspirator.



Webster Series 900 Pre-mixing Burner

REPRESENTATIVES: L. S. Reagan, G. C. Bergtholdt, H. A. Macfarline, J. C. Wallis, N. R. Mannon.

Oakite Products, Inc.

NEW YORK, N. Y.
Booths 10-11 California Bldg.

EXHIBITS: Mechanical panel display presenting cleaning materials, methods and equipment. Cleaning various equipment without dismantling. Removing lime scale and rust from Diesel and gasoline engine cooling systems. Stripping paint from storage tanks, tank cars and trucks without fire of silicosis hazards. Salvaging dirty valves, fittings, fishing tools, well pumps, etc. Washing drums. Cut-away model of storage tank illustrating stripping of paint from exterior surfaces by Oakite Hot Flow-On method and cleaning interior surfaces.

NEW PRODUCTS:

Oakite Solution-Lifting Steam Gun—Suitable for cleaning taken-down equipment before repair, inspection and reassembly.

Oakite Interior Tank Cleaning Unit, Model 324—Automatic motor operated machine which makes possible the cleaning of tank car interiors, in average condition, in from one to two hours. Designed to eliminate fire hazard from sparks.

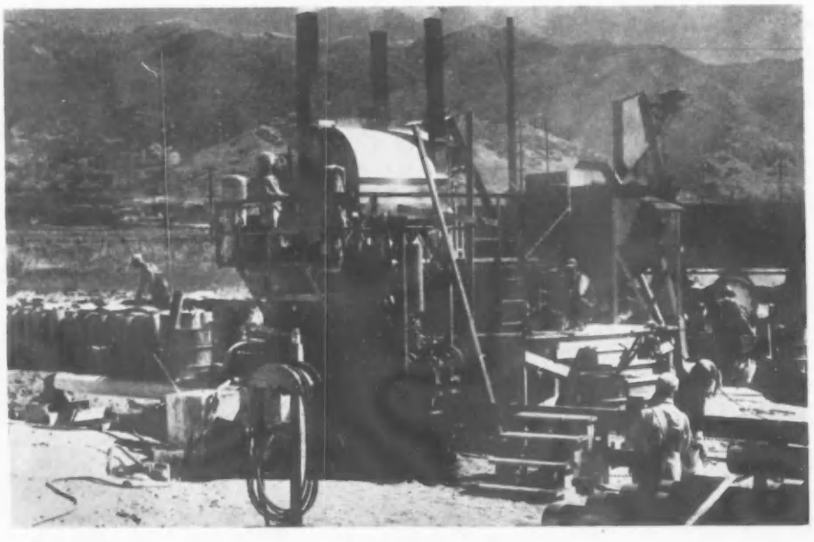
REPRESENTATIVES: H. L. Gray, mechanical engineer; George Seib, New York office; J. C. Leonard, Chicago and Southwestern division manager; J. R. Whyte, Tulsa and Oklahoma City representative; W. G. Morehead, Dallas representative; William A. Dowen, Houston representative.

Greenfield Tap and Die Corporation

GREENFIELD, MASSACHUSETTS
Booths 95-96 Kansas Bldg.

EXHIBIT: Production tools used in the manufacture of equipment for the oil industry. A collection of oil country gages. Maintenance tool display.

REPRESENTATIVES: Dan M. Bell, Southwest representative; Harold Torian, assistant Southwest representative; George Kavanaugh, Southwest service engineer; Glen Stimson, manager gage department, and Raymond Helbig, advertising manager.



Equipment Installed for Application of Somastic Pipe Coating on Job Site

S K F Industries, Inc.

PHILADELPHIA, PENNSYLVANIA
Booths 67-68 Texas Bldg.

EXHIBIT: Ball and roller bearings.

NEW PRODUCT:

SAF Pillow Block is equipped with a recently developed triple-seal and is designed for heavy duty. Two halves, designed to simplify installation by permitting the bearing to be mounted securely on the shaft before assembly, are held together by T-bolts. Two cast-iron split piston rings on each side of the new bearing assembly are designed to protect the spherical roller bearing against abrasives. Inner rings serve as internal flingers, while outer rings exclude foreign substance. The rings are not securely fastened to the shaft and are free to locate themselves whenever shaft expansion occurs.

REPRESENTATIVES: R. H. DeMott, R. C. Byler, F. E. Ericson, G. Palmgren, A. H. Schmal, J. L. Brusca, H. L. Gaddis, A. H. Dixon, N. Miller, O. Neumer, W. F. Weidner and H. A. Westwater.

Manufactured Specialties Company

PITTSBURGH, PA.
Booth 88 Kansas Bldg.

EXHIBITS: Morris line of pipe couplings and repair clamps.

NEW PRODUCTS:

Morris Pipe Couplings made of specially processed galvanized steel are factory assembled. An inner steel "toothed" sleeve and "toothed" gasket enclosed in an outer steel shell which carries the bolts, makes it necessary only to slide the ends of the pipe into the coupling and tighten, using a single wrench. These couplings have been tested at many times normal working pressures.

Morris Pipe Couplings and Repair Clamps

Morris Repair Clamps are made in 2-inch, 4-inch, 8-inch lengths for use on both small holes or longer "splits." The clamp is simply pushed over the pipe at the leak, bolts inserted, gasket slid into place, and bolts tightened. The gasket "flows" into the rough or badly corroded surfaces, giving a permanent seal and reinforcing the pipe around the full diameter in the area of the repaired leak. Bolts may be moved to any position most convenient for tightening.

REPRESENTATIVES: W. J. Pflaum, "Tal" Finley.

Tulsa Shock Absorber Company

TULSA, OKLAHOMA
Booth 5 Texas Drive

EXHIBITS: Pumping shock absorbers

NEW PRODUCTS:

Tulsa Pumping Shock Absorber—Barrel shaped rubber cylinders are held together between steel plates. When load is at its peak, the rubber "cushions" the load, minimizing rod jobs. These rubber compound cylinders will not heat and are of long life. The absorbers are available in two styles, polish rod and beam pitman types. They will fit any rod hanger or standard beam and are very easy to install.

Tulsa Shock Absorber

REPRESENTATIVES: J. F. Eagen, J. Shan Martin.

New Departure Division of General Motors

BRISTOL, CONNECTICUT
Booths 52-53 Kansas Bldg.

EXHIBIT: New Departure ball bearings for the petroleum industry.

REPRESENTATIVES: F. W. Marschner, Western sales manager, Detroit; Frank J. Miller, manager Chicago office; O. E. Highland and L. A. Hillman, Chicago.

Waukesha Motor Company

WAUKESHA, WISCONSIN
Booth J Outside

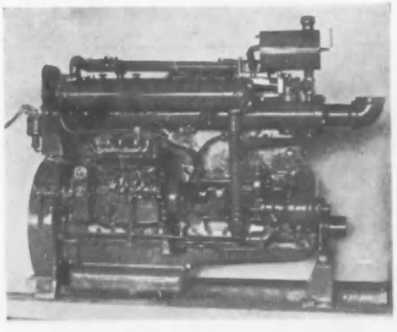
EXHIBIT: Multi-fuel engines. Full-scale single-cylinder aircraft test engine.

NEW PRODUCTS:

Multi-Fuel Engines are designed to burn Diesel oil, natural gas, butane, propane and other liquid and gaseous fuels with no internal change, and with only external accessories directly concerned with the fuel system. No heads, pistons, rods or other major units are changed when converting the engines from an injection oil engine to carbureted fuels.

Identical basically, one engine exhibited in operation is arranged for natural gas with gas carburetor and gas manifolding, while the other is arranged for Diesel fuel with Bosch injection pump and Hesselman spark ignition combustion system. Units displayed will be six-cylinder engines developing 185 horsepower without supercharging, and will be cooled by heat exchangers rather than radiator and fan arrangement. The company's line ranges from a small four-cylinder engine of 50 horsepower to a large six-cylinder engine developing 325 horsepower.

REPRESENTATIVES: J. E. DeLong, president; J. B. Fisher, vice president and chief engineer; J. G. Swain, sales manager; E. R. Rutenber, sales engineer; A. F. Campbell, Mid-Continent district manager, and G. A. Duncan and George Knipfel, Mid-Continent sales representatives.



Waukesha Hesselman Multi-Fuel Engine

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Atlas Supply Company
MUSKOGEE, OKLAHOMA

American Chain & Cable Company
NEW YORK, N. Y.

Boston Woven Hose & Rubber Company
CAMBRIDGE, MASSACHUSETTS

Driftmeter, Inc.
TULSA, OKLAHOMA

Kohler Company
KOHLER, WISCONSIN

Luberfiner, Inc.
LOS ANGELES, CALIFORNIA

Quigley Company, Inc.
NEW YORK, N. Y.

Tnemec Company
KANSAS CITY, MISSOURI

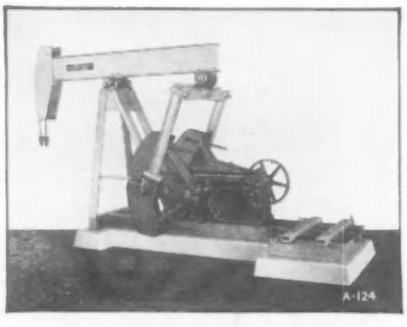
Wheeling Steel Corporation
WHEELING, WEST VIRGINIA

Weber Engine Company
KANSAS CITY, MISSOURI

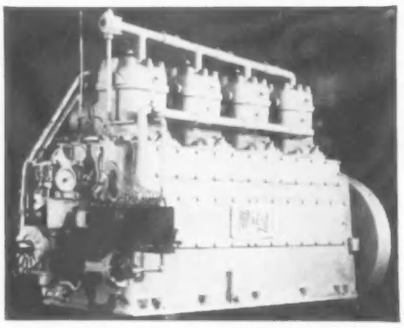
U. S. Rubber Company
NEW YORK, N. Y.

Consolidated Expanded Metal Companies
Block H Outside

EXHIBIT: Atlas pumping units. Weber vertical Diesel and gas engines. Weber Gold silencers. Driftmeter engine coolers. Kohler light plants. Meyer's house water systems. Jones-Staggs intermitters. Steelcrete expanded metal. Belmont packings, products of U. S. Rubber Company and Boston Woven Hose & Rubber Company. American Cable Company's wire rope. Wheeling Steel pipe and specialties. Luber-Finer oil filters. Quigley refractories. Tnemec protective coatings.



Atlas No. 1002 Pumping Unit



Weber Type 4 MC Diesel Engine

NEW PRODUCTS:

Pumping Units—Three units, with roller chain reducers, rated at 6 horsepower, 9.6 horsepower and 11.3 horsepower shown in operation. These compact units have distinctive design of speed reducers.

Weber engines—The two latest additions to Weber Engine Company's line of medium speed, two cycle, vertical engines are shown for the first time. The type "4MC" engine on display is a four cylinder, full Diesel engine, convertible to gas; 7½-inch bore by 9-inch stroke, and rated 100 horsepower. It follows the the supercharging, step-piston design used so successfully on the two and three cylinder, type "MC" Weber engines which have been in production for several years. The engine will also be available with 8¼-inch bore cylinders and rated at 120 horsepower. The four cylinder engines are especially designed for use with geared pumping powers, central generating plants, compressors, and pipe line pumps, and can be furnished with or without power takeoff clutches. The Weber type "H" gas engine exhibited is a single cylinder engine, 4⅞-inch bore by 6½-inch stroke, rated 8-10 horsepower. It is complete with radiator cooling system, power take-off clutch, and roller bearing crankshaft. The engine has been designed to meet the demand for a heavy duty, oil field pumping engine for the shallower wells.

Steelcrete—An expanded metal mesh product manufactured by The Consolidated Expanded Metal Companies, for various construction purposes, machinery guards, etc.

REPRESENTATIVES: J. H. McDonald, J. R. Brooks, R. E. Howe, R. M. Carter, E. L. Chavellier, H. U. Everett, R. L. Gibbins, B. E. Gold, S. C. Maples, F. E. Maxwell, F. T. Mitchell, J. G. Park, Ed Robertson, W. E. Stitzer.

From Wheeling Steel Corporation: E. Tyler Davis.

From Weber Engine Company: Arthur Clifford, Sr., Arthur A. Clifford, Jack Clifford, S. B. Gold.

Electric Supply Company
TULSA, OKLAHOMA
Booths 10-12 Kansas Bldg.

EXHIBIT: Oil-industry products of Paranite Wire & Cable Corporation, Harvey Hubbell, Inc., Frank Adam Electric Company, Hygrade Sylvania Corporation and National Carbon Company.

REPRESENTATIVES: R. E. Stueve, president; R. E. Newhouse, vice president, and O. F. Shaw, F. W. Stolba and J. C. Bond, representatives of Electric Supply Company; J. C. Randall, Paranite Wire & Cable Corporation; Walter C. Haffner, Harvey Hubbell, Inc.; P. E. Ebersole, Frank Adam Electric Company; Carl S. Long, Jr., Hygrade Sylvania Corporation, and L. K .Lowe, National Carbon Company.

Independent Pneumatic Tool Company
CHICAGO, ILLINOIS
Booth 56 Scientific and Technical Bldg.

EXHIBIT: Portable electric drills, screwdrivers, nut setters, grinders, sanders, nibblers, saws and hammers.

NEW PRODUCT:

Thor-Nado Electric Hammer features a "sling-shot drive" said to deliver a blow unparalleled for power in a tool of its size and capacity. Measuring 13½ inches and weighing 14 pounds,

Thor-Nado Electric Hammer

it is designed for a wide variety of heavy-duty applications, including star drilling, channeling, chipping, cleaning, scaling, cutting, gouging, beading, caulking and seaming. Its rated capacity in concrete, limestone or brick is 1 inch.

REPRESENTATIVES: W. D. Madden and N. C. Hurley, Jr.

Marshall Supply & Equipment Company
TULSA, OKLAHOMA
Booths 97-98 Kansas Bldg.

EXHIBIT: Wrenches. Taps and dies. Twist drills. Electric tools. Grinding wheels and abrasives. Files. Hack saw blades.

REPRESENTATIVES: J. O. Braswell, sales manager; and Rex Martin, Tom Christley, John Nester and E. T. Rohrkaste, of the sales department.

RIDGID Pipe Tools lick the toughest oil field jobs...work longer and save you money

ONLY the delivery of extraordinary service under tough normal and emergency conditions, to thousands of users in oil fields all over the world, could have built the great popularity of RIDGID Tools. If you are not using them, you're missing fine tools for better work and reduction of tool costs.

UNCONDITIONAL GUARANTEE
If this Housing ever Breaks or Distorts we will replace it Free.
THE RIDGE TOOL CO.
ELYRIA, O.
TRADE RIDGID MARK

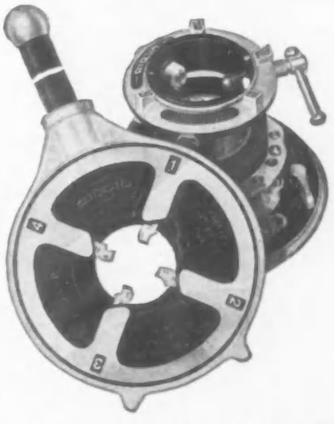
A guarantee that stops your wrench housing repair expense

That housing guarantee adds a lot to the life of a wrench, keeps it at work, stops time-out for repairs, cuts your investment in spare parts—expense-saving that's yours with this modern all-alloy wrench, with replaceable safe chrome-molybdenum jaws that grip and let-go instantly. You actually enjoy the adjusting nut that spins easily in all sizes, 6″ to 60″—and the comfort-grip I-beam handle. And mind you, it costs no more than other top grade wrenches it far outworks. Save money—buy RIDGIDs.

A Compound Leverage Wrench that makes 1 man strong as 14

Multiply the strength of one man by equipping him with this RIDGID whose leverage is compounded 14 times. Immediately he becomes anything up to 14 men. He handles pipe and fittings up to 8 inches, easily, by himself—where before you've been paying for several men heaving on a wrench lengthened by a piece of pipe on the handle. With this super-leverage, you salvage fittings that otherwise have to be smashed off. This RIDGID is easy to use—put trunnion on pipe, jaws on fitting (or vice versa) and pump it on or off. Four sizes, S2, S4, S6 and S8. Short handles so it works well in tight places. Buy one and test it any way you please.

A Powerful Die Stock that threads 4 sizes of pipe without changing dies



It's a trouble-saver — all the way through. Turn the workholder gauge ring to your pipe size, put on pipe, tighten one screw — no chance for mistakes. And it threads 1″, 1¼″, 1½″ and 2″ pipe with ONE set of chasers—no extra dies to carry around, to lose. Easily shifted from one size to another. This new all-steel malleable-alloy threader gives you speed, accuracy and perfect threads. Mechanics enjoy using it.

BUY AT YOUR SUPPLY HOUSE

THE RIDGE TOOL COMPANY • Elyria, Ohio

YOU'RE INVITED TO VISIT US AT BOOTHS 28-30, TEXAS BLDG., AT THE TULSA OIL SHOW, MAY 18-25

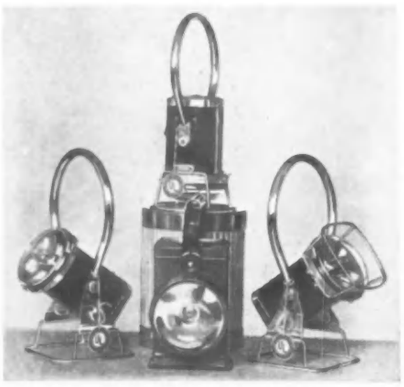
Burgess Battery Company

FREEPORT, ILLINOIS
Booth 86 Scientific and Technical Bldg.

EXHIBITS: Safety lanterns. Dry batteries.

NEW PRODUCTS:

No. AL4 Safety Lanterns are for use where explosive atmospheres are encountered. Atwin-bulb socket permits replacing a burned-out bulb with a "flick of the thumb" and an automatic ejector throws out broken bulbs. A non-tarnishing Alzak type reflector is covered by a heat-treated glass dome, which in turn is protected by a heavy wire guard. The body is made of bonderized steel with a rust-resisting cadmium trim, mounted on a swivel base which permits setting the lantern down



Burgess AL4 Safety Lantern

with the light tilted at any desired angle. Both the glad dome lens and battery-compartment may be sealed on. Uses a standard 6-volt lantern battery and two Mazda No. 26, 27 or 502 lamps.

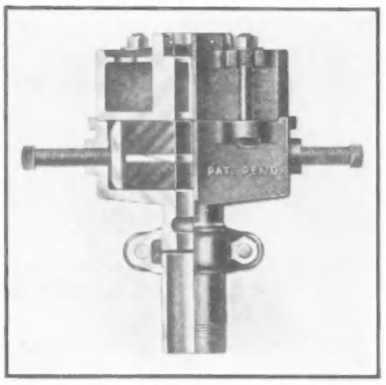
American Iron and Machine Works Company

OKLAHOMA CITY, OKLA.
Booths 51-52 Oklahoma Bldg.

EXHIBITS: American safety drill pipe elevator. American polish rod stuffing box. American flow packer. American sucker rod coupling and paraffin scraper. Simplomatic cathead. American float joint. American flowing well Christmas tree.

NEW PRODUCTS:

American Polish Rod Stuffing Box embodies a method whereby a fine film of lead is deposited on the polish rod, filling pits and scoring, and eliminating corrosion. The top chamber is equipped with an improved ring for oil swiping. The box is top packed, making it easy to remove old rubbers and repack. The pack-off rubbers will not adhere or vulcanize to the polish rod. Moulded cavity in each rubber is off center, permitting insertion of a special formed lead, which acts as a bearing. Free movement of the rod through the rubbers is assured with the depositing of the fine film of lead on the rod. The box may be turned by hand when desired, so as to smooth the polish rod equally around its entire circumference.



American Polish Rod Stuffing Box

American Flow Packer

American Flow Packer embodies the hook wall principle, and features perfect seal in any weight casing; can be pulled after many years of service without tubing sticking; cup or sealing is a composition of expanding duck and Neoprene rubber; allows small amount of gas to be cut into tubing at the bottom of the packer, which aerates the fluid column, causing a weak well to flow. This packer, the manufacturers state, can be used successfully on a cement squeeze job.

REPRESENTATIVES: Earl W. Miller, vice president; John R. Riley, sales manager in charge of booth; R. E. Craine, district manager, Kansas; J. M. Taylor, sales representative, Kansas; G. C. (Red) Ross, salesman; J. J. Fitzpatrick, salesman; M. G. McCool, district manager, West Texas; E. W. Harring, manager, Harvey, Louisiana; P. K. Ridge, salesman; W. L. Martin, sales representative, Illinois.

A. Leschen & Sons Rope Company

ST. LOUIS, MISSOURI
Booths 31-32 Texas Bldg.

EXHIBITS: Complete assortment of samples of wire ropes, including Hercules Red Strand wire rope in the flattened strand, round strand, and nonrotating constructions, in both preformed and standard types.

REPRESENTATIVES: Wm. C. Henning, secretary-treasurer; L. E. Dressler, Wm. G. Jordan, L. W. Weyler, C. H. Watson, J. C. Hoffman, E. E. Lambert.

American Chain & Cable Company, Inc.

BRIDGEPORT, CONN.

Page Steel & Wire Division

MONESSEN, PA.

American Cable Division

WILKES-BARRE, PA.

American Chain Division

YORK, PA.

Hazard Wire Rope Division

WILKES-BARRE, PA.

Reading-Pratt & Cady Division

BRIDGEPORT, CONN.
Booths 157-158, 173-174-175-165 Oklahoma Bldg.

EXHIBIT: Various types of Page Steel & Wire welding wires, chain link fence and fittings. Various grades of American Cable wire ropes, featuring Tru-Lay Preformed wire rope. American Chain Division welded and weldless chain, featuring the new Endweldur chain made exclusively by the company. Hazard Wire Rope wire ropes, featuring Lay-Set Preformed type. A complete line of Reading-Pratt & Cady bronze, iron and steel valves, and representative group of bar-stock valves.

REPRESENTATIVES: From Page Steel & Wire Division: E. J. Flood and B. W. Collins, Jr.

From American Cable Division: J. Brooks and G. Moore.

From American Chain Division: J. B. Taylor.

From Hazard Wire Rope Division: W. W. Runkle; E. C. Troutman; B. N. Burns; J. R. McCrea; and C. A. Little.

From Reading-Pratt & Cady Division: J. J. Reed; J. A. Bynum; T. R. Foster; L. W. Hopkins; and J. P. Ferguson.

Midwest Piping & Supply Company

ST. LOUIS, MISSOURI
Frick-Reid Bldg.

EXHIBIT: Welding fittings, including 45-degree laterals, 90-degree elbows, 45-degree elbows, tees, crosses, lapped joint stub ends, concentric and eccentric reducers, saddles, sleeves, caps and forged steel flanges.

NEW PRODUCT:

Welding 45-Degree Lateral is available in standard and extra heavy weights in nominal pipe sizes from 2- to 8-inch, inclusive. Both straight and reducing laterals also available.

REPRESENTATIVES: C. S. Simon, Tulsa; William D. Cleghorn, Los Angeles, and J. L. Jacobson and A. W. Deacon, St. Louis.

Gatke Corporation

CHICAGO, ILLINOIS
Booths 23-25 California Bldg.

EXHIBIT: Moulded brake blocks. Woven brake blocks. Moulded clutch blocks and liners. Woven clutch blocks and liners. Deep-well woven brake lining. Ektag folded and compressed brake lining. Moulded vee-type cones. Moulded single-faced cones. Woven single-faced cones. Moulded, woven and hydraulic compressed clutch facings. Moulded gear tooth facings. Hydrotex bearings. Lubritex bearings. Grafitex bearings. Tuftex bearings. Pump valves. Timing gears. Heavy-duty gears. Asbestos cloth, insulations, yarn, tubing, listing tape, cord, wick, rope and packings. Rubber packings.

NEW PRODUCTS:

Type 300 Moulded Friction Material for Brakes and Clutches embodies features of both moulded and woven friction materials, and is moulded in all shapes and sizes to meet specifications. It is designed to possess an unvarying coefficient of friction from atmospheric temperature up to extremely high heats, and to possess long wear life without fading.

Moulded Gear Tooth Clutch Facings are strongly constructed teeth integrally moulded on facing to eliminate steel backing plate, drilling and mounting costs. It is moulded in all sizes, and is designed to cut down wear on gear as well as driving ring.

REPRESENTATIVES: Thomas L. Gatke, president; J. D. Johnson, Jr. and W. O. Barton, field representatives.

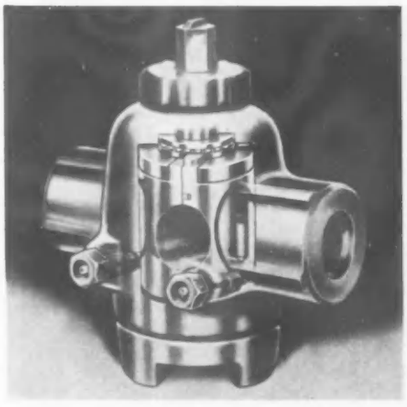
Mission Manufacturing Company

HOUSTON, TEXAS
Booths 91-93 and 118-120 Texas Bldg.

EXHIBIT: Pump valves. Slush pump piston rods. Slips. Swabs. Plug valves.

NEW PRODUCTS:

Mission Plug Valve is described as featuring 90-degree operation, easy turning through super-surface grinding, a cylindrical closure member contacting the case throughout its length along an arc identical to the arc of the case without wedging to get the fit, a lubricant-seal groove completely encircling each port, a reservoir of spare lubricant for each port-encircling sealing groove, utilization of the force within the valve to automatically force lubricant from the reservoir to the downstream seal grove, a reservoir system responsive to either port, and the highest standards of metallurgy, mechanical precision and exacting inspection.



Mission Plug Valve

Mission Piston Rod

Piston Rods for Slush Pumps feature a deposit of super-surface alloy coating on a file-hard rod base and are described as retaining all of the physical properties of the file-hard rod. The coating is designed to be hard, smooth and corrosion-proof, providing longer life and reducing packing wear and shut-down time to a minimum.

REPRESENTATIVES: Walter B. Sharp, president; W. T. Campbell, vice president in charge of sales; J. D. Best, assistant sales manager. E. H. Trammell, export division manager; H. J. Tucker, A. O. Nelson and Fred S. Price.

Leeds & Northrup Company

PHILADELPHIA, PA.
Booths 29-30 Scientific & Technical Bldg.

EXHIBIT: Representative models of the "Micromax" line of indicating, recording, and controlling instruments. Demonstrations of the effectiveness of these instruments in close temperature control.

REPRESENTATIVES: M. E. Griffith, R. E. Hansen, W. W. Streever, G. C. Graf.

Bantam Bearings Corporation

SOUTH BEND, INDIANA
Booths 49-50, California Bldg.

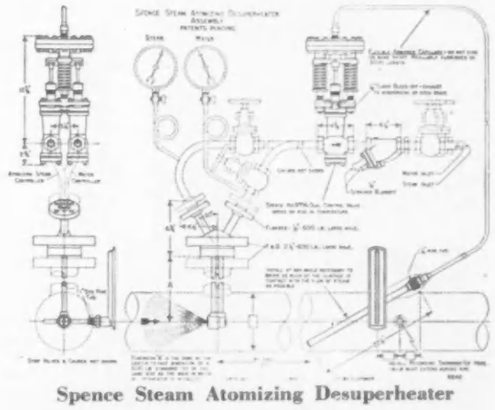
EXHIBIT: Radial roller bearings. Single-row and four-row tapered bearings. Bantam quill bearings. Ball and roller thrust bearings, including angular contact ball bearings for rotary tables. Journal bearings for crown and traveling blocks. Thrust bearings for swivels. Custom-built bearings.

REPRESENTATIVES: R. B. Nichols, secretary and sales manager; J. F. Oehlhoffen, assistant sales manager; F. D. Clark and C. A. Benson, representatives, and H. E. Ewart, assistant chief engineer.

Spence Engineering Company, Inc.

WALDEN, NEW YORK
Booth 53 Scientific and Technical Bldg.

EXHIBITS: 1¼-inch Spence Type ED pressure regulator and Type V strainer. 1¼-inch Spence Type ER temperature regulator with adjusting handle and indicator. 2½-inch Spence Type E2D7 low pressure regulator. 2½-inch Spence Type ETD combined temperature and pressure regulator equipped with pressure and temperature safety pilots and Type V2 strainer. 2½-inch Spence Type EP4 pump regulator, series 60, for 600 pound discharge pressure and Type V3, 60 series strainer. Spence Type D30 remote, electrically-adjusted, pressure regulating pilot. Spence low pressure cutout switch, pipe line service, designed for 1500 pound diaphragm pressure. No. 1 Spence steam atomizing desuperheater. Fall automatic pipe cutting machine demonstrations.



Spence Steam Atomizing Desuperheater

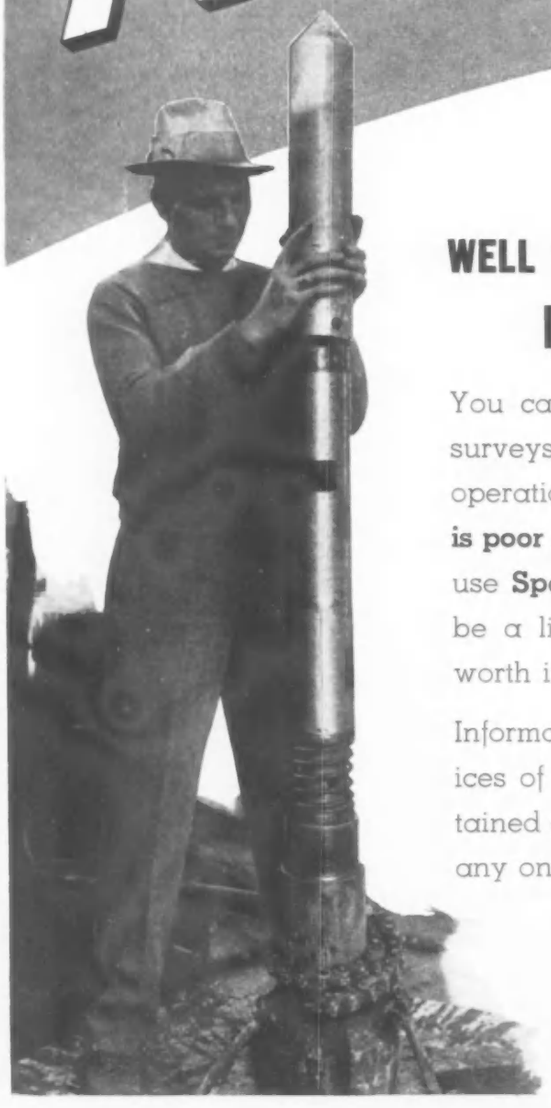
NEW PRODUCTS:

Fall Automatic Pipe Cutting Machine—Cuts pipe so that it will make a welded joint with any other size pipe at any angle.

Spence Steam Atomizing Desuperheater.

REPRESENTATIVES: John Fall, R. Notvest, Paulsen Spence.

ACCURACY



SPERRY-SUN

WELL SURVEYING METHODS and INSTRUMENTS

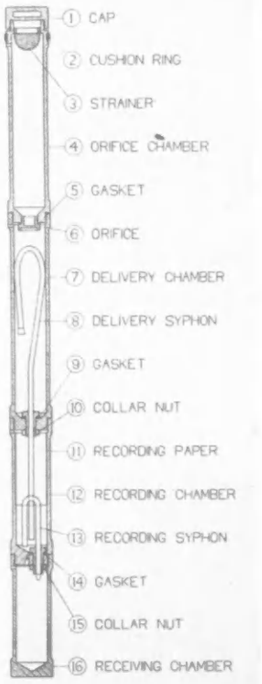
INSURE ACCURATE RESULTS

You can't afford to take chances with inaccurate well surveys! So much money is at stake in every drilling operation **that anything less than the best in well surveys is poor economy.** Be absolutely **sure** of accurate results — use **Sperry-Sun** methods and instruments. The cost may be a little higher — but assurance of accuracy is well worth it!

Information regarding the various instruments and services of Sperry-Sun, together with literature, may be obtained either from our home office in Philadelphia or from any one of our branch offices.

SPERRY-SUN WELL SURVEYING COMPANY
1608 WALNUT STREET
PHILADELPHIA, PA.

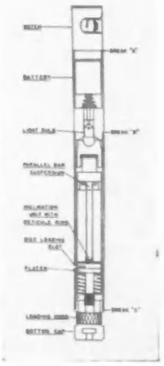
is all-important IN WELL SURVEYS



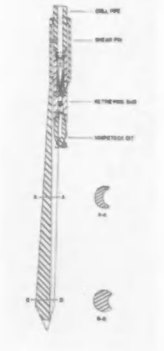
SYFO
Self-Checking
SINGLE SHOT

Sample Core

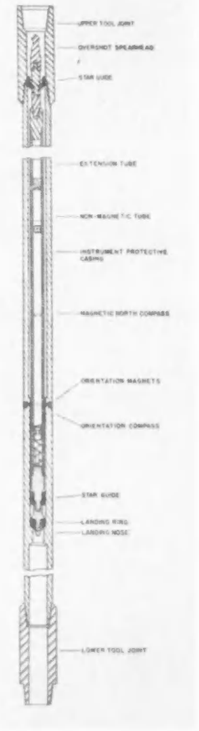
POLAR CORE ORIENTATION SERVICE



H-K
INCLINOMETER



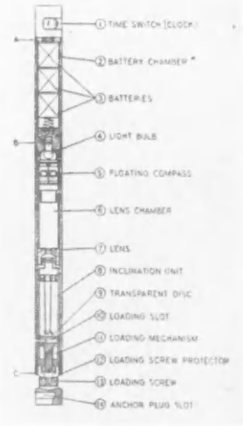
K-K
WHIPSTOCK
and
REMOVAL SUB



MAGNETIC DEFLECTING TOOL ORIENTATION

MAGNETIC DEFLECTING TOOL ORIENTATION RECORD

H-K
Single Shot
RECORD DISC



H-K
Self-Checking
SINGLE SHOT

SURWEL
SELF-CHECKING
MULTISHOT

Branch Offices

HOUSTON, TEX. CORPUS CHRISTI, TEX. SEAGRAVES, TEX.
LONG BEACH, CALIF. BAKERSFIELD, CALIF.
LAFAYETTE, LA. TULSA, OKLA.

Macwhyte Company

KENOSHA, WISCONSIN
Booth 69, Oklahoma Bldg.

EXHIBIT: Rotary and cable tool drilling lines. Independent wire rope center rotary lines for Mid-Continent fields. Special lines for California fields. Hi-Lastic cable tool drilling lines. Monel metal wire rope for refineries. Sampled pumping lines, non-rotating lines, core barrel lines, cokestill cracker lines, winch lines and sand lines. Wire rope slings of braided construction for handling pipes, bars, tools and equipment.

REPRESENTATIVES: Macwhyte engineers.

Ozalid Corporation

JOHNSON CITY, NEW YORK
Booth 31, Scientific and Technical Bldg.

EXHIBIT: Whiteprint machines.

NEW PRODUCTS:

Model F Whiteprint Machine utilizes a new type high-pressure mercury vapor tube to assure an even distribution of light over the entire exposing area. It has a printing speed up to 60 inches per minute, depending upon the type of original used, and will accommodate cut sheets or roll stock up to and including 42 inches in width.

It incorporates a printer, developer, return chute and storage cabinet in a single unit. The developed print is returned to the operator at the front of the machine dry and ready for immediate use. All functions may be carried out by one operator who can handle capacity production of the machine. Tracings superimposed on Ozalid sensitized materials are fed into the printer. Belts hold both against a Pyrex glass cylinder which revolves around the light source to eliminate smudging and wear of tracing, static electricity and distortion due to slippage.

Model D Whiteprinter is designed for small size prints, 10-inch width and any length, and recommended for oil well log reproductions. It has a printing speed up to 50 inches per minute and a developing speed of 30 inches per minute. Both Model F and Model D machines utilize the dry-developing process, a direct contact method providing positive-type prints developed dry. The dry-development makes possible short cuts in drafting practice through use of Ozalid transparent intermediaries, sensitized tracing paper, tracing cloth, and clear and matted foils. Ozalid reproductions on the transparent materials may be used as duplicate tracings for many purposes where traced copies of the original drawing or parts of the original drawing are required. The transparent prints are made in the same way as regular Ozalid prints.

Model F Whiteprinter

Model D Whiteprinter

REPRESENTATIVES: Howard S. Sutton, manager of branches and Thomas L. Pinkney, southwestern representative.

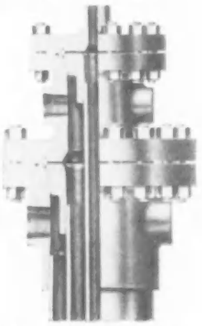
Rector Well Equipment Company, Inc.

FORT WORTH, TEXAS
Booths 20-21 Oklahoma Bldg.

EXHIBIT: Heads for casing and tubing suspension, including split ring-recessed, coupling-type casing heads, both threaded and flanged; mandrel suspension-type casing and tubing heads with both threaded and welding mandrels; slip suspension casing heads; latch-type tubing head; stripper-type tubing head; mandrel-stripper tubing head; Christmas-tree assemblies; cable-tool drilling head. Rectorseal. Rectorkote. Rector service unit.

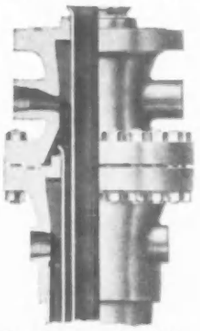
NEW PRODUCTS:

Mandrel Suspension Type Rectorhead provides a casing and tubing suspension, in combination (flanged) or singularly as desired. The mandrel in the casing head is furnished either in threaded, or for welding, according to specifications wanted. One feature is employment of a single seal ring, acting dually as a perfect pressure sealing medium and a mandrel holddown. Design of the mandrel and the position of the packing ring makes it impossible to "wedge" the mandrel in the hanger.



Mandrel Suspension Type Rectorhead

Slip Suspension Type Rectorhead—Type RH in this design has a casing head body that can be furnished also with a mandrel for suspension of casing, either threaded or welded type.



Slip Suspension Type Rectorhead

This casing head is furnished with two-piece welding mandrel and with one-half inch threaded opening through body connections, with space between hangers for testing purposes.

REPRESENTATIVES: L. L. Rector, L. D. Hilton, C. L. Cron, E. W. Brockman, C. W. Zartman, W. S. McEwen and J. C. Spillar.

The Bristol Company

WATERBURY, CONNECTICUT
Booths 15-16 Scientific and Technical Bldg.

EXHIBITS: Process-Cycle controllers. Metavane system of pneumatic telemetering. Round-chart explosion resisting potentiometer recorder. Strip chart multiple-point potentiometer recorder. Reset control instruments. Valve positioner. Portable resistance thermometer. Flow ration controller.

The Sherwin-Williams Company

CLEVELAND, OHIO
Booths 54-55 Oklahoma Bldg.

EXHIBIT: Paint.

NEW PRODUCT:

Kem Lustral Enamel is designed for brush, spray or dip application, air dry or bake.

REPRESENTATIVES: K. H. Wood, director of sales and distribution, Cleveland; W. J. Montgomery, manager of transportation sales, Cleveland; A. W. Everett, southwestern district manager, Kansas City; Langly Rumph, petroleum industry sales, Houston; E. J. Gebhart, manager of petroleum industry sales, Tulsa, and W. P. Clark, railway and petroleum sales, Kansas City.

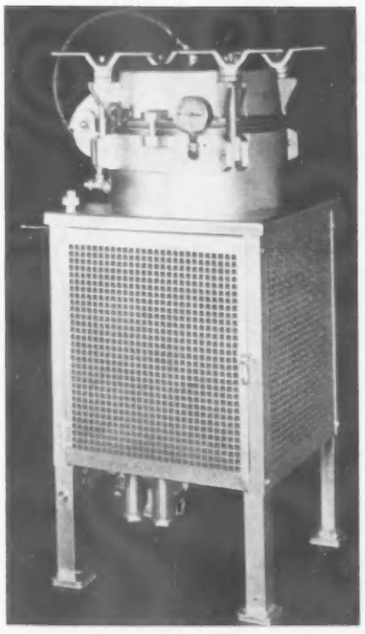
Hilliard Corporation

ELMIRA, NEW YORK
Booth 77 Kansas Bldg.

EXHIBITS: Various clutches including friction, over-running, single revolution. Hilco oil reclaimer.

NEW PRODUCTS:

Hilco Oil Reclaimer provides automatic means for completely restoring used lubricating oil to its original specifications. Continuous in operation and all electric. Attention is required only once a day. The process consists of filtration through a bed of adsorbent clay to remove all solid matter. Acidity and color are also favorably restored. Moisture and fuel dilution are removed by a process of evaporation under vacuum in vaporizing chamber that is electrically heated and thermostatically controlled. Can be used direct-connected in the lubricating systems of Diesed engines, keeping the oil in the engine absolutely clean at all times.



Hilco Oil Reclaimer

REPRESENTATIVES: E. A. Mooers, general manager; John M. Schuckers, chief engineer; Albert S. Allen, assistant sales manager; territorial representatives.

Moorlane Company

TULSA, OKLAHOMA

American Car & Foundry Company, Valve Division

NEW YORK, N. Y.

Goetze Gasket and Packing Company

NEW BRUNSWICK, N. J.

Scovill Manufacturing Company

WATERBURY, CONN.

Taylor Forge & Pipe Works

CICERO, ILLINOIS

Henry Vogt Machine Company

LOUISVILLE, KENTUCKY
Booths 151-156 Oklahoma Bldg.

EXHIBIT: Valves, fittings and tubings from the following companies—Scovill Manufacturing Company, Goetze Gasket and Packing Company, Henry Vogt Machine Company, American Car and Foundry Company and Taylor Forge and Pipe Works.

NEW PRODUCTS:

Vogt Union Bonnett Meter and General Purpose Globe and Gate Valves have ground joint, inside screw stems, renewable seats and slotted type, solid wedges. These are suited for general gate valve service at high pressure and high temperatures. The globe valves have ground joint, inside screw stems and a one piece needle point stem. These valves are suited for dependable regulation in meter and gage lines at high pressures and temperatures. This line of valves is available in sizes from ¼-inch to two-inch, made of carbon steel with stainless steel trim or all-stainless steel as required.

Vogt Drop Forged 150 and 300 Pound American Standard Gate Valves feature body and bonnett flanges of the round bolted type with full port opening through valve. Flanges are forged integral. All valves have renewable seat rings of the rolled in type, slotted type, solid wedges and a gasket or ring joint between the body and bonnett. These valves are available in 2-, 3-, 4-, 6- and 8-inch sizes with stainless steel trimmings regularly furnished.

Scovill Phosphorized Admiralty is a variation of regular Admiralty. It was developed primarily for those places where the phenomenon of dezincification is pronounced.

REPRESENTATIVES: From Moorlane Company: Wm. D. Moorer; Egon Koehler; S. D. Hunt; J. W. Dorman; E. L. Hagar; and J. R. Stagg.

From Henry Vogt Machine Company: G. A. Dacuble, Jr.; W. A. Jackman; W. S. Cannon, Jr.; Otto C. Alpiger; and J. L. Massie.

From Scovill Manufacturing Company: J. L. Kimberly and W. H. Bitner.

The Fafnir Bearing Company

NEW BRITAIN, CONNECTICUT
Booths 67-68 Kansas Bldg.

EXHIBIT: Heavy-duty ball and roller bearings.

REPRESENTATIVES: W. S. Shirley, G. W. Tompkins, H. B. Dwight, W. S. Ames and A. L. Maltman.

Gustin-Bacon Manufacturing Company

KANSAS CITY, MISSOURI
Booths 194-195 Oklahoma Bldg.

EXHIBIT: G-B Rolagrip coupling. G-B Red-Hed stuffing box. G-B Strokontrol. Dugas fire extinguisher.

NEW PRODUCT:

G-B Red-Hed Stuffing Box is built around meshtite rubber as a packing element. It is designed to pack off with less friction and less wear on the polished rod, and to last longer than the conventional block-type rubbers of equal size and to maintain a tight fluid seal during all stages of wear.

REPRESENTATIVES: A. L. Gustin, A. L. Gustin, Jr., J. F. Stephens, J. Neal Sawyer, Chas. Wheatley, C. H. Armstrong, H. M. Stone, V. F. Halliburton, J. R. Higgins, S. M. Blevens, M. C. Beaver, P. O. Craig, N. A. Wilson and Ted Wiklund.

G-B Red-Hed Stuffing Box

The Jeffrey Manufacturing Company

COLUMBUS, OHIO
Booths 160 and 170 Oklahoma Bldg.

EXHIBIT: Devil Dog chain. Rotor Chief chain. Ranger chain. Standard chain. Shale Shaker.

NEW PRODUCT:

Type 139 Vibrating Shale Shaker is provided with heavy solid metal sides to make a sturdy unit. It features predetermined straight-line motion over the entire deck to prevent rejects from piling up on the screen and cause loss of good mud. The vibrating deck is suspended on four specially woven long-life weather-proof fabric straps to eliminate springs, rocker arms and all joints which might break or become worn and noisy. It is designed so that the amplitude of vibration is not affected by either a light or heavy load, so that all parts run in a bath of oil and are mounted on roller bearings, and so there are no reciprocating parts to wear. The mud outlet is in the form of a drawer which can be used from either side. Power is supplied by a ½-horsepower motor, and screen area is 4 x 6 feet.

REPRESENTATIVES: N. E. Salsich, vice president in charge of sales; L. E. Brill, sales manager of the general products division, and T. P. Burke and H. F. Adrian.

Gaso Pump & Burner Manufacturing Company

TULSA, OKLAHOMA
Gaso Building

EXHIBITS: Complete line of Gaso oil industry pipe line pumps.

NEW PRODUCTS:

Pump, Fig. 2652—A 12-inch stroke pump with interchangeable fluid liners and capacity ranging from 176 barrels per hour at 1500 pounds pressure, to 592 barrels per hour at 500 pounds pressure. This is the company's newest and largest pump, and like other Gaso pumps includes individual valve chamber for each valve, extra-large valve openings and fluid passages to insure proper filling at high speeds, extra deep stuffing boxes to provide tightness without undue tension, long frames to prevent overlapping of piston rods, herringbone gears center-mounted on shafts to equalize loads on bearings, cranks set at 90-degree angle to give overlapping piston stroke and insure smooth flow, extra-large roller bearings for crank, pinion, and worm shaft each of which operates in separate housing sealed off from crankcase oil, and lubrication by means of oil bath in enclosed crankcase.

REPRESENTATIVES: T. J. Flanagan, president; M. J. Flanagan, vice-president; H. F. Stover, secretary-treasurer; T. H. Flanagan, purchasing agent; H. A. Wienecke, Jr., and Geo. W. Dreyer, sales engineers; J. E. Winger, foundry manager; A. V. Simonson, New York, export sales.

The Black & Decker Mfg. Company

TOWSON, MARYLAND
Booths 38-39 Texas Bldg.

EXHIBIT: Portable electric saws, drills, hammers, grinders and shears. Working demonstrations of tools.

REPRESENTATIVES: J. F. Apsey, Jr., advertising manager; F. H. Schell, sales promotion manager; E. V. Schaub, W. L. Poynter and R. H. Sorrels.

Metal Goods Corporation

ST. LOUIS, MISSOURI
Booth 125 Texas Bldg.

EXHIBITS: Fabrications of non-ferrous metals. Map of United States showing various warehouse points and mill locations in colored lights. Major mills represented are: Aluminum Company of America, American Brass Company, American Rolling Mill Company, International Nickel Company, Rustless Iron & Steel Company, Shenango-Penn Mold Company, Duraloy Company, Lukens Steel Company, Youngstown Welding & Engineering Company, C. O. Jelliff Manufacturing Company, H. M. Harper Company, Northern Indiana Brass Company, Macwhyte Wire Rope Company, Driver-Harris Company.

REPRESENTATIVES: S. D. Hogdon, H. C. Riedel, Wm. R. Atkinson.

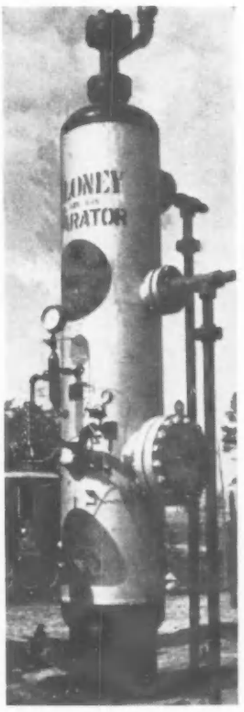
Maloney Tank Manufacturing Company

TULSA, OKLAHOMA
Booths 116-117 Texas Bldg.

EXHIBITS: High and low pressure oil and gas separators. Valves and accessories for use with bolted steel tanks.

NEW PRODUCTS:

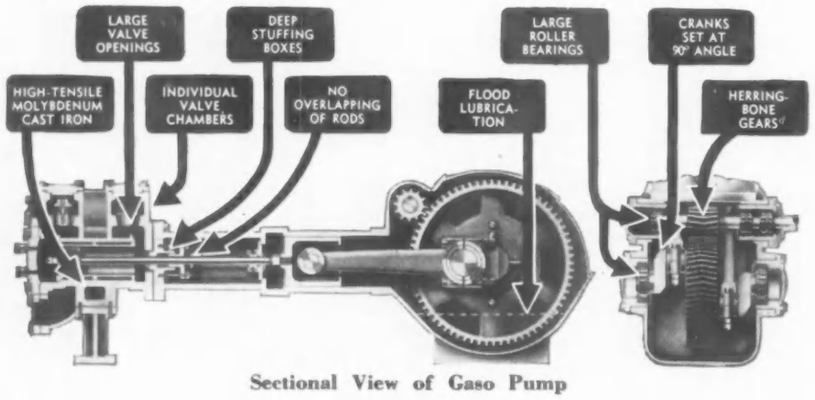
Maloney Separator has high initial travel for gases upon entering the separator, a knock-out element of new



Maloney High Pressure Separator

design, patented mist traps of new and high efficiency and boiler-type manholes held by only two bolts. All valves have full-area passages.

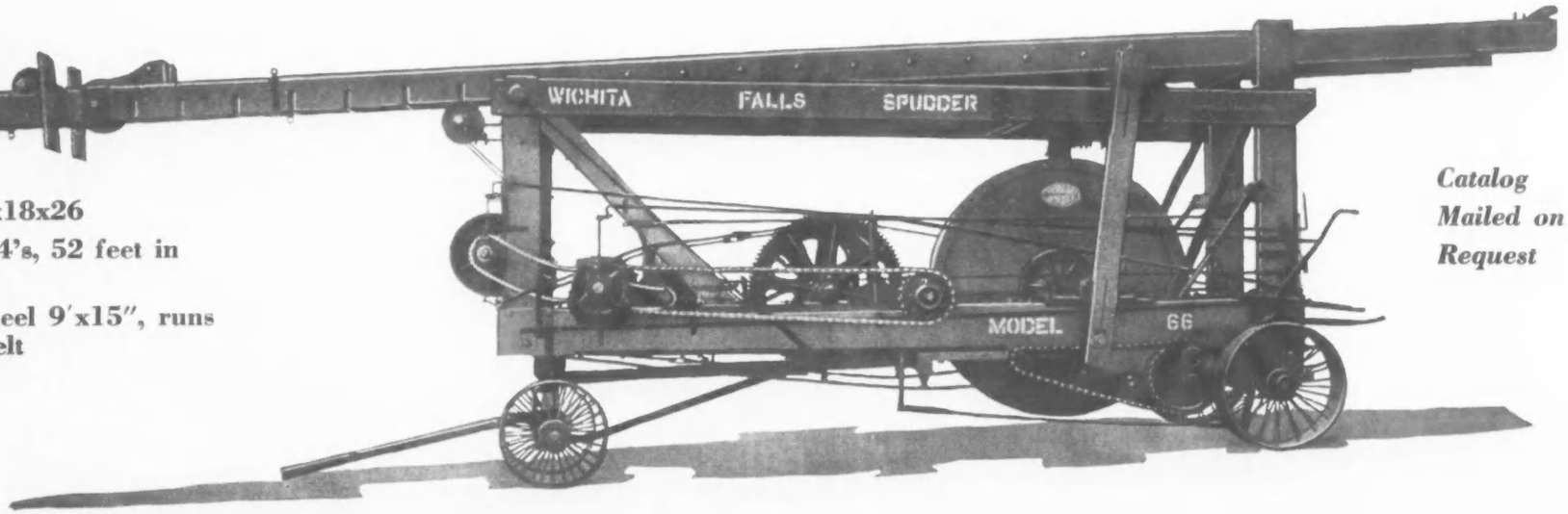
REPRESENTATIVES: J. S. Warren, president; J. C. Highfill, H. W. Highfill, Chas. W. Stevens, district sales representative, Wichita Kansas; M. B. Garner, district sales representative, Fort Worth, Texas; Carl Folkner, district sales representative, Artesia, New Mexico; E. G. Murphy, district sales representative, Houston, Texas; Roy Guthrie, sales representative, Midland, Texas; Carl Kinser, sales representative, Corpus Christi, Texas; Roy Tarrant, sales representative, Lafayette, Louisiana.



Sectional View of Gaso Pump

KING *of all* DRILLING MACHINES

Designed for Service and Endurance



Frame 6x18x26
Mast 5x14's, 52 feet in length
Band Wheel 9'x15", runs 14" belt

Catalog Mailed on Request

The New Model "66"

WICHITA FALLS SPUDDER

Specially Designed and Built Practically for Drilling 6,000 Feet; Cleaning Out to 7,000 Feet

CLARK MACHINE COMPANY

MANUFACTURERS

SPECIAL OIL FIELD MACHINERY **TELEPHONE 5235** **WICHITA FALLS, TEXAS**

National Tube Company

PITTSBURGH, PENNSYLVANIA
Booths 138-142 Oklahoma Bldg.

EXHIBIT: Display featuring the seamless process of making oil-country products. Seamless pipe, casing and tubing. Drill pipe fitted with new and regular design tool joints.

REPRESENTATIVES: B. F. Harris, J. E. Goble, W. F. McConnor, J. B. Graham, E. E. Smith, F. R. Braman, H. J. Morlang, A. C. Temmel, A. L. Zoll, F. A. Marsh, W. C. Moser, H. L. Dana, P. F. Houserman, E. H. Pelster, Walter Graham, Robert Young and P. G. Chambers.

Caterpillar Tractor Company

PEORIA, ILLINOIS
Blocks C and E Outside

Athey Truss Wheel Company

CHICAGO, ILLINOIS

Cardwell Manufacturing Company

WICHITA, KANSAS

Killefer Manufacturing Corporation

LOS ANGELES, CALIFORNIA

LaPlant Choate Manufacturing Company

CEDAR RAPIDS, IOWA

R. G. LeTourneau, Inc.

PEORIA, ILLINOIS

Trackson Company

MILWAUKEE, WISCONSIN

Willamette Hyster Company

PORTLAND, OREGON

EXHIBIT: Diesel oil-field engines ranging from 32- to 180-horsepower. Single-cylinder 5.5-horsepower spark-ignition pumping engine. Diesel marine 135-horsepower engine. Crude-oil fuel system on a 132-horsepower 6-cylinder engine. Natural gas attachment on a 132-horsepower 6-cylinder engine. Model D7 75-horsepower Diesel tractor equipped with a LeTourneau cable-controlled bulldozer. Model D7 75-horsepower Diesel tractor equipped with a LaPlant-Choate hydraulically operated bulldozer. Model D7 75-horsepower Diesel tractor equipped with a Hyster winch. Athey Truss Wheel track-type wheels and D2 tractor-mounted mobiloader. Trackson Company Traxcavator mounted on a 35-horsepower Diesel tractor. Trackson Company pipelayer on a R5 spark-ignition tractor. Cardwell sideboom on a Diesel D6 tractor. Killefer Manufacturing Company equipment. Model exhibit depicting development of the track-type tractor.

Caterpillar Diesel D7 Tractor

NEW PRODUCTS:

Model D7 Tractor has a rated 75-horsepower on the drawbar and 87 on the belt. Steering clutches are operated hydraulically by a separate control unit driven from the upper transmission shaft. The frame and steering clutch case are of welded steel construction, built into a one-piece unit. Metallic facings for flywheel and steering clutches are designed for long life and freedom from adjustment. Power is a heavy-duty 4-cylinder valve-in-head Diesel engine with a bore and stroke of 5¾ x 8 inches and a full-load governed r.p.m. of 1000. It is equipped with either of two 5-speed transmissions, the low-speed transmission providing speeds from 1.4 to 5 miles an hour, and the high-speed transmission providing speeds from 1.4 to 6 miles an hour. There is a corresponding but slightly higher reverse speed for each of the first four forward speeds.

Athey MobiLoader is an entirely new piece of loading equipment.

Hyster Worm Drive Winch has been designed especially for the new Caterpillar D7 Tractor described above. The new winch is equipped with a new type automatic worm brake, 6-inch vertical and horizontal rolls of manganese steel, and has provision for operator's guard and for mounting a gin pole. The horizontal roll is so located that it may be used as a chafing roll on upward leads, or the line may be passed over it for lifting as with a gin pole. All driving parts are full enclosed, yet the frame is of open design above for visibility and below to facilitate clearing of mud. The winch is furnished complete with power takeoff transmission and handling gear ready for installation on the tractor. The drum has two operating speeds, both over and underwinding. It develops a line pull of 100,000 pounds at 16 feet per minute in low, and 40,000 pounds at 45 feet per minute in high. The intermediate gears may be interchanged to develop a higher speed range.

LeTourneau XD7 Bulldozer can be quickly taken apart and shipped without difficulty to the next operation because of its bolted construction. Like all LeTourneau tools, it is cable controlled through the LeTourneau power control unit. At the exposition it is assembled with a front power control unit, leaving the rear of the tractor open for any auxiliary tools desired. The bowl of the bulldozer may be tilted as much as five inches forward or backward for easier digging and faster rolling in necessary materials. The XD7 is designed expressly for the new Caterpillar D7 Tractor.

REPRESENTATIVES: Robert Culshaw, D. A. Robison, general sales manager; E. W. Jackson, general service manager; H. H. Howard, manager of engine sales division; G. E. Spain, manager of sales development division; C. M. Burdette, manager of central sales division; Burt Powell, news editor; H. W. Smith and G. P. Fenn, engine sales managers; J. N. Barnes, Texas; A. L. Robertson, Kansas and Oklahoma; C. S. Littlepage, Oklahoma and Texas; H. G. Hartzell, engine representative, Kansas; A. A. Forbes, engine representative, Houston; R. R. Sloan, engine representative, Tulsa; J. H. Gill, engine representative, Illinois; J. W. Murdock, R. E. Lord, W. C. Burgy, J. J. Simko, G. R. Merz, R. T. Ketcham, H. H. Waters, D. V. Stone, A. E. Palmer and M. B. Flint.

From Athey Truss Wheel Company: J. A. Roberts, president; Ray Betsinger, R. E. Pendleton, F. I. Hill, C. E. Mathews.

From Williamette Hyster Company: A. A. Alexander, H. F. Wahl, A. G. Owen.

From R. G. LeTourneau, Inc.: R. G. LeTourneau, president; E. R. Galvin, general sales manager; Denn M. Burgess, general manager and vice president; Jack LeTourneau, district representative; Frederick Jusenius, export representative.

Hyster Worm Drive Winch

The Johnston & Jennings Company
Oceco Division

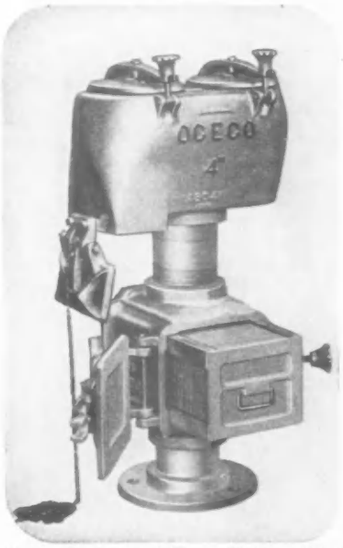
CLEVELAND, OHIO
Booths 82 and 129 Oklahoma Bldg.

EXHIBITS: Oceco vent equipment including flame arrestors, conservation vent valves. Other tank equipment and refinery specialties, including gauge hatches, manheads, swing line equipment, automatic tank gauges, still safety valves, receiving house lock boxes, etc. "Lo - Temp - Valve - Lift." Water draw off valve. Two inch vent valve.

NEW PRODUCTS:

Oceco Lo-Temp-Valve-Lift—An automatic device which makes it impossible for vent valves to freeze tight under the severest conditions.

Water Draw Off Valve—For refinery and marketing tanks. Designed to permit renewal of valve disc when necessary without opening the tank.



Oceco Improved Type B Vent Unit

Two Inch Vent Valve with gauge opening for marketing tank service.

REPRESENTATIVES: H. H. Fleming and Wm. H. McGunagle, Cleveland; John M. McGregor, Fred Thilenius, Tulsa; Arthur Dooley, Arthur Rhew Dooley, Beaumont.

Four Wheel Drive Auto Company

CLINTONVILLE, WISCONSIN
Block N, Outside

EXHIBITS: Improved type of well servicing unit. New super transmission.

NEW PRODUCTS:

FWD Model MJ6x6 Well Servicing Unit comprises a six-wheel drive truck and portable telescopic derrick. Derrick is made in two sections, one section telescoping into the other. This model has a wheelbase of 240 inches and is powered by a 152 horsepower engine. A new torque apportioning center differential assures distribution of power to the axles in proportion to the weight carried by the axles. The distribution of power is 1/5 to the front axle and 4/5 to the rear axle. When fully erected, the derrick is 84 feet in height and is raised by means of jackscrews which are operated through the truck engine by a power take-off. Operating power is also furnished by the truck engine. When in transit the unit measures 54 feet overall length, and the height is 12 feet, 5 inches.

Super Transmission—Used in FWD trucks of the "M" series. Especially designed for heavy-duty service. It has a torque capacity in excess of the largest truck engines available, and is arranged so that the regular five speeds provided in the gear box may be supplemented with a two-speed auxiliary that provides for ten speeds forward and two speeds in reverse.

REPRESENTATIVES: W. A. Olen, president and general manager. R. H. Schmidt, general sales manager. F. M. Higgins, advertising manager. S. H. Sanford, manager of western sales division. W. C. Merrill, sales representative. G. W. Murray, sales representative.

The Carborundum Company

NIAGARA FALLS, NEW YORK
Booths 91-92, Kansas Bldg.

EXHIBIT: Grinding wheels designed for grinding jack bits and other tools used by the industry. General-purpose grinding wheels and tool-room grinding wheels. Abrasive paper and cloth for sanding and finishing all types of metals.

REPRESENTATIVES: S. F. Courter, S. Phipps and G. O. Watson.

Kobe, Inc.

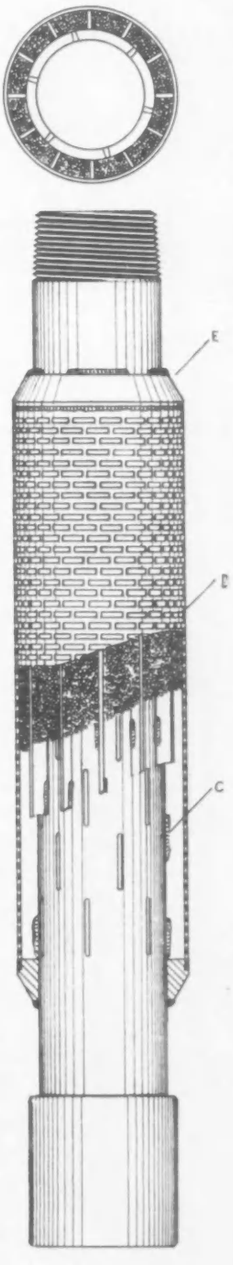
HUNTINGTON PARK, CALIF.
Block 7, Outside

EXHIBIT: Kobe hydraulic tubing, insert and pump-in types of pumps. Kobe triplex pumps. Kobe heat-treated screen casing. Kobe prepacked gravel liners. Kobe quick-acting tubing heads.

NEW PRODUCTS:

Kobe Size 6 Hydraulic Pump is designed to run on 2 or 2½-inch tubing as an insert pump in a production string of 6⅝- or 7-inch casing, or as a casing pump in wells with 7-inch or larger casing. It has a capacity of 2800 barrels per day from 5000 feet or 5000 barrels daily from 2500 feet. Size 6 is a completely new model, incorporating changes found desirable after years of operation with similar but smaller sizes of hydraulic pumps. Chief new feature is the engine valve, which controls the motion of the pump. This valve was developed after two years intensive study of the action of hydraulic pumps by means of a unique cathode ray oscillograph developed especially for this purpose. This oscillograph is being shown in operation at the exposition.

Kobe Size 1¼ Hydraulic Pump features an improved method of installation and removal from the well. A four-way valve and pump catcher replace the usual tubing head. To install the pump the catcher is removed, and the pump inserted into the well. On landing on bottom in a special shote it starts pumping. To pull the pump, the four-way valve is reversed, and the pump is pumped up the power tubing until it lands in the catcher. This pump is single acting and has a capacity of 45 barrels per day from 5000 feet. It is designed primarily as a low priced unit to pump stripper wells. One and one quarter inch E. U. tubing is used for the power string, with ½-inch or ¾-inch extra strong pipe clamped to the outside of the 1¼-inch for a production string. Once installed the tubing is pulled only to work on the well. The pump may also be installed as a conventional insert pump, with the tubing strings concentric.



Kobe Prepacked Gravel Liner

Kobe Prepacked Gravel Liners are for use in areas where fine, free running sand is encountered. Kobe heat-treated screen casing, with full length longitudinal ribs welded between each row of slots, forms a strong frame to which the perforated outer shell of corrosion resistant material is welded. The individual cells thus formed are filled with a hard, rounded grain, acid-tested gravel, specially screened to the correct size to hold the formation sand in the well.

Hart Industrial Supply Company

OKLAHOMA CITY, OKLAHOMA

Metal & Thermit Corporation

NEW YORK, N. Y.

Westinghouse Electric & Mfg. Company

EAST PITTSBURGH, PENNA.

Arcos Corporation

PHILADELPHIA PENNA.
Booth 2 Kansas Bldg.

EXHIBIT: Westinghouse flexarc welders. Murex electrodes made by Metal & Thermit Corporation. Arcos stainless electrodes.

REPRESENTATIVES: Otto Hart, president; V. H. Schenck, secretary-treasurer; J. M. Krisman and M. A. Winter, sales engineers. R. D. Thomas, president, Arcos Corporation.

McKissick Products Corporation

TULSA, OKLAHOMA
Booths 206 and 245 Oklahoma Bldg.

EXHIBIT: Tubing blocks. Floor blocks. Traveling blocks. Snatch blocks. Tubing catchers. Tubing bleeders. Peerless stuffing boxes. Peerless load binders.

NEW PRODUCTS:

Safety Traveling Block is designed for light rotary and slim-hole drilling and is described as safe, sturdy and compact.

McKissick Safety Traveling Block

Peerless Snatch Block is described as being light in weight, yet sturdy enough to withstand severe use of ordinary trucking.

McKissick Snatch Block

Tong Block, equipped with roller bearings for ease in handling tongs, is described as light, inexpensive and constructed to insure maximum safety and convenience.

REPRESENTATIVES: W. H. McKissick, C. B. Johnson, Hugh Robinson and H. V. Flemming.

McKissick Tong Block

Ralco Sales Company

HOUSTON, TEXAS
Booths 207-10 and 241-44 Oklahoma Bldg.

Swab

EXHIBIT: Universal ball seat swab, vapor-proof lantern, one-bolt wire-line clamp, and Rig-A-Lite vapor-proof derrick lighting units.

NEW PRODUCTS:

Universal Ball Seat Swab — This tool is designed for swabbing well tubing with fast falling and full-load lifting. A new type swab cup operates independently of the mandrel. Metal guards are provided at both ends of each cup to eliminate possibility of hanging the swab in tubing joint. Ground ball seats are vulcanized integral at each end of every cup. Equal pressure is applied over the entire surface of the cup rubber and positive loading of the swab is accomplished at the moment slack is taken in the line.

Vapor-Proof Electric Lantern—Designed for use in gas vapor and tank gauging, pipe line and bulk stations. Suspended on an aluminum base, the light may be focused at any desired angle. The lantern uses a standard dry cell battery and is equipped with a 5-volt bulb. The reflector is of polished non-corrosive metal.

Buck Clamp—Only one bolt is necessary for application of the clamp, both top and bottom sections of the clamp being formed to fit the lay of the wire.

REPRESENTATIVE: Harry B. Cookston, sales manager.

Ralco Vapor-Proof Electric Lantern

The Symbol of the World's Toughest Valve and Pump Cups.

"Tailor Made" Since 1912

As Many Cups Per Dollar... But More Service Hours Per Cup

YOU PAY NO MORE for a Dragon Cup yet, when you reckon its longer, smoother performance, you actually pay less. Reducing costly shut-downs alone more than "refunds" its first cost—in time, temper and profits.

On duty or in competition, our Nobs Composition (shallow well) Cup is as "Fearless as the Dragon." "Tailored" of toughest materials, to our own secret formula, by Cup Specialists.

Dragon Composition (for deep wells) and Dragon Leather are our other two "Cup Companion Champions." Call for them by *name*—every time—anywhere.

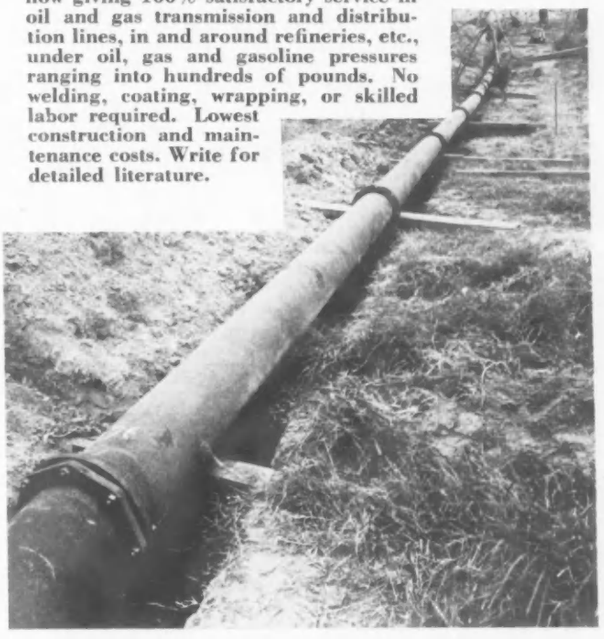
For Shallow Wells

The Dragon Mfg. Co.

MARIETTA, OHIO

MONO-CAST DOUBLEX SIMPLEX PIPE

More than 7,000,000 feet of permanent Mono-Cast Doublex Simplex Pipe are now giving 100% satisfactory service in oil and gas transmission and distribution lines, in and around refineries, etc., under oil, gas and gasoline pressures ranging into hundreds of pounds. No welding, coating, wrapping, or skilled labor required. Lowest construction and maintenance costs. Write for detailed literature.



AMERICAN CAST IRON PIPE CO.

BIRMINGHAM, ALA.

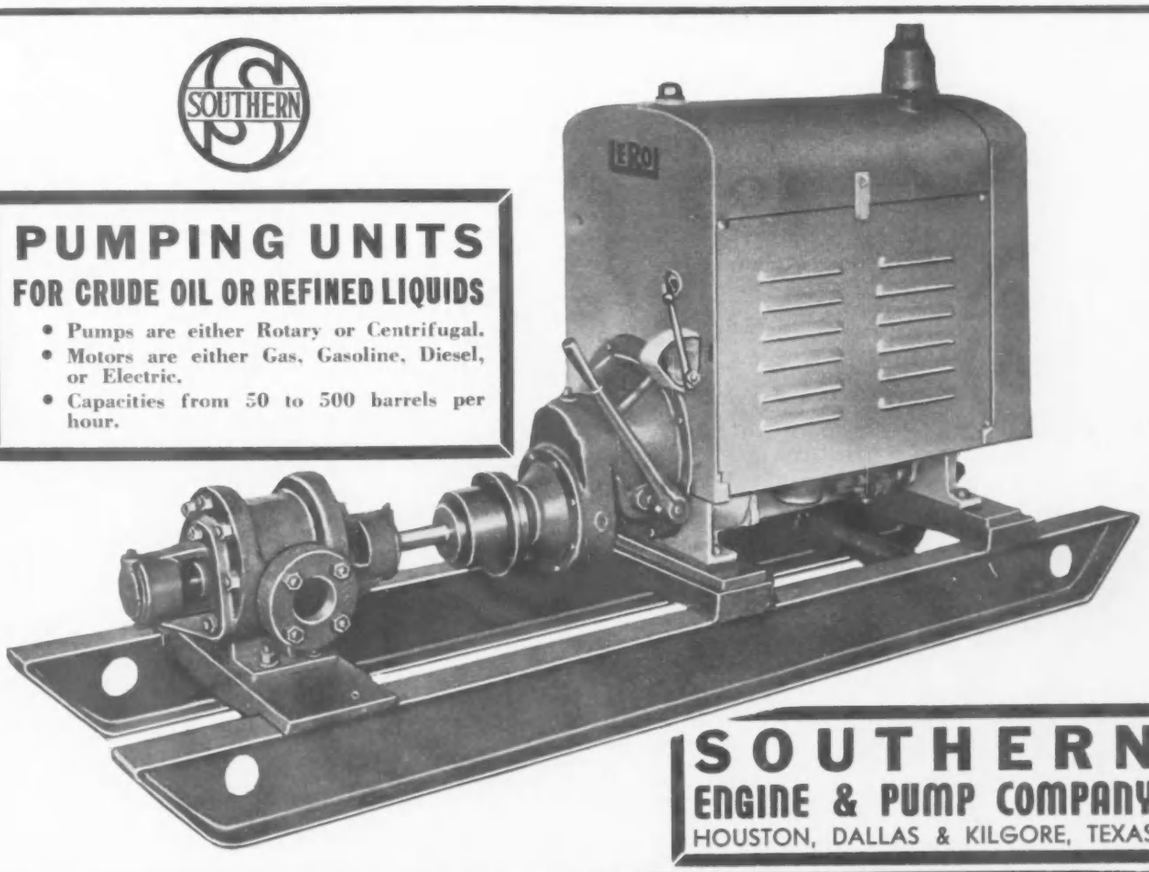
Dallas Houston El Paso Pittsburgh Kansas City Chicago
Minneapolis New York City Cleveland Los Angeles San Francisco

SOUTHERN

PUMPING UNITS

FOR CRUDE OIL OR REFINED LIQUIDS

- Pumps are either Rotary or Centrifugal.
- Motors are either Gas, Gasoline, Diesel, or Electric.
- Capacities from 50 to 500 barrels per hour.



SOUTHERN ENGINE & PUMP COMPANY

HOUSTON, DALLAS & KILGORE, TEXAS

Producing and Pipe Line Exhibitors at the

ELEVENTH INTERNATIONAL PETROLEUM EXPOSITION

Industrial Sales and Engineering Company

HOUSTON, TEXAS

D. O. James Manufacturing Company

CHICAGO, ILLINOIS

Kropp Forge Company

CHICAGO, ILLINOIS

Chicago Rawhide Manufacturing Company

CHICAGO, ILLINOIS

Laminated Shim Company, Inc.

LONG ISLAND CITY, NEW YORK
Booths 6-7-8-9 California Bldg.

EXHIBIT: Gears and speed reducers manufactured by D. O. James Manufacturing Company, including new motorized Planetary reducer, a single herringbone reducer, a small size worm reducer, a right angle spiral bevel gear reducer, several types of gearing and couplings, and a small size pumping unit.

Hammered and drop forgings manufactured by Kropp Forge Company including: forgings for casingheads, drawworks, valve bodies; fittings for Christmas trees, manifolds, spudding, boosters, and pipe lines; hooks, rings, shafts and other heavy-duty forged parts; forged steel companion flanges of various types, welding necks, boilers, flanges and spuds.

Oil and grease seals manufactured by Chicago Rawhide Manufacturing Company.

Shims, both solid and laminated, manufactured by Laminated Shim Company.

Union Chain & Manufacturing Company's lines of chain, sprockets and other equipment are displayed in Booths 37 and 38 California Building. While another Industrial Sales & Engineering Company manufacturer, Tyson Roller Bearing Corporation, is showing its line of tapered roller bearings in Booth 168 Oklahoma Building.

An-Cor-Lox Lock Nut

NEW PRODUCTS:

James Motorized Planetary Reducer is a series that has been completely redesigned after 50 years of experience manufacturing planetary gearing.

Laminated An-Cor-Lox Lock Nut is a self-contained, all-metallic lock nut. It locks itself to the bolt instead of to the work, never mars either bolt threads or surface of the work, and maintains its locking efficiency under all heat conditions and vibration.

Kropp Welding Flange—A new type welding flange has been developed by Kropp to speed up line piping work.

REPRESENTATIVES: From D. O. James Manufacturing Company: L. H. Schrade, Jong Holy, J. J. Dowling, and H. O. James.

From Laminated Shim Company: Owen C. Jones.

From Kropp Forge Company: Rot A. Kropp, Charles F. Johnson, Arthur Hellstrom, J. Herbert Lund, and Lou W. Kreicker.

From Industrial Sales and Engineering Company: J. H. Drapier, W. R. Davis, L. B. Holt and L. L. Pellet.

Dodge Manufacturing Corporation

MISHAWAKA, INDIANA
Booths 4-5 California Bldg.

EXHIBIT: The company's "30,000-hour line" of anti-friction bearings. Power-transmission equipment. Operating display of bearings, friction clutches, V-belt drives and variable speed transmissions.

NEW PRODUCT:

Dodge-Timken Double Interlock Pillow Block designed for simplified mounting on ordinary commercial

Dodge-Timken Pillow Block

shafting, uses a duplex Timken roller bearing with long extended inner race-ring extending completely through the housing to provide an enclosed bearing. To secure the bearing to the shaft, collars with two setscrews spaced at 120 degrees are placed on the outside of each end of the extended inner race-ring. The setscrews pass through unthreaded holes in the race-ring, bear directly on the shaft on the one side and clamp the race-ring directly against the shaft on the other side. The race-ring is clamped throughout its entire length to the shaft and is held by a 3-point anchorage at each end. It is made in both expansion and non-expansion types.

REPRESENTATIVES: B. L. Myers, L. O. Carroll, A. T. Bodle and Earl Gee.

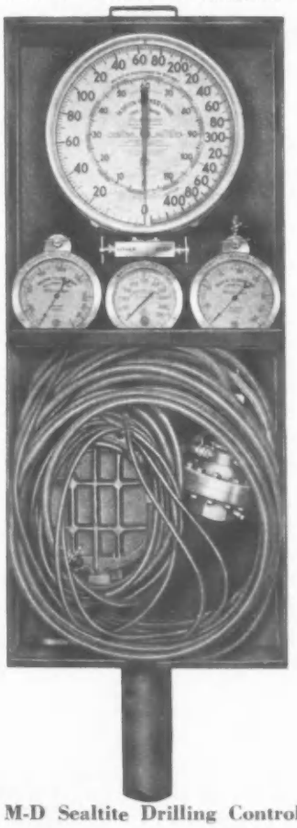
Martin-Decker Corporation

LONG BEACH, CALIFORNIA
Reed Roller Bit Bldg.

EXHIBIT: Sealtite drilling control instrument. Slim-hole weight indicator. Rate-of-penetration recorder. Unitized mud pump gauge. New style pulsation damper.

NEW PRODUCTS:

Sealtite Drilling Control Instrument is designed to eliminate fluid leaks. It is assembled with steel-shielded rubber hose and steel fittings instead of copper valves and tubing to make it leak-proof throughout. The fluid system is factory filled, tested and sealed and requires no further attention. The diaphragms are permanently connected to the hose to reduce installation time.



M-D Sealtite Drilling Control

The complete instrument has five individual units—a Sealtite weight indicator, Sealtite mud pump gauge, torque gauge, tachometer and recorder—unitized into one steel case. The recorder charts weight on bit, mud pressure and torque while drilling. The recorder is mounted back to back with the indicator to provide ample storage space for hose and diaphragms in the front of the case during transportation. The

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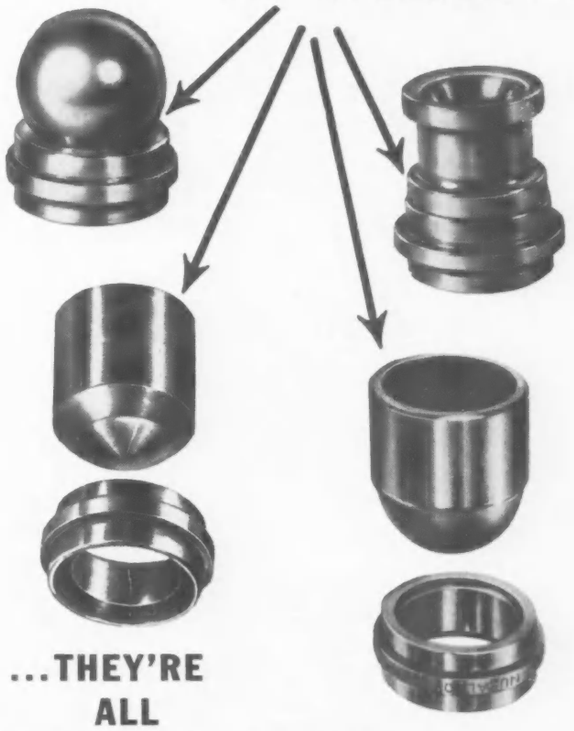


...THEY'RE ALL LONG-LIVED

On your next order for balls or drops and seats, be sure you get "K" Monel. It is sold under various brand names, and like regular Monel, is highly resistant to the corrosive attack of sour oil and brine. In addition, hardened to upwards of 300 Brinell, "K" Monel resists the abrasive action of rock particles and sand. Write for further information. Ask for Bulletin T-9, "Engineering Properties of 'K' Monel."

PROVED PERFORMANCE

11 Months vs. 21 Days

In a highly corrosive well in Howard County, Texas, pumping 270 bbls. of sour crude and 70 bbls. of salt water per day, alloy steel balls lasted 21 days, corrosion resisting steel lasted an average of 42 days. In the same well "K" Monel ball and seat valves performed satisfactorily for 10 months, 22 days.

14 Months vs. 5 Days

In another well pumping very corrosive crudes, steel ball and seat valves lasted only 5 days and the maximum life for materials other than "K" Monel was approximately 45 days. In this well "K" Monel balls and seats were finally removed after 14 months' service.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York, N. Y.

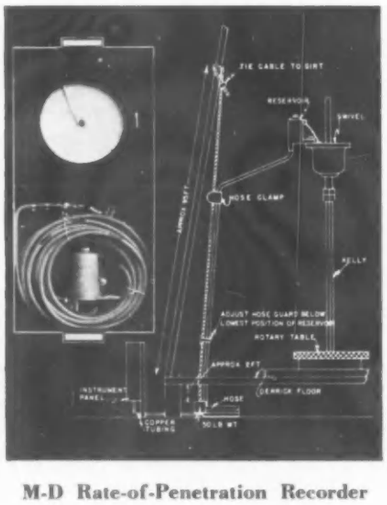
INCO MONEL

*"K" Monel is a registered trade-mark of The International Nickel Company, Inc., which is applied to a nickel alloy containing approximately two-thirds nickel and one-third copper, with a small aluminum content that permits hardening by heat treatment.

M-D Mud Pump Gauge

indicator has capacity to handle 20,000-foot wells and is indirectly illuminated for easy night reading. Weight is given in thousands of pounds, kilograms, or points on the 16-inch dial face. Mud pressure, torque and tachometer gauges are equipped with M-D flexo-glass lenses, shock and pressure proof, and are protected by special pulsation dampers which smooth out the readings. Mud and torque gauges are oil-filled to lessen wear on gauge mechanism and aid dampening of pressure fluctuations.

Slim-Hole Weight Indicator is a portable instrument having capacity of 150,000 pounds with six lines and designed for use in shallow-hole drilling operations. It has three interchangeable dials calibrated on both sides (making six dials in all) that give direct readings on all conventional string-ups and line sizes. The instrument accommodates line sizes from 5/8-inch to 1¼-inches in diameter, and a newly designed C-clamp which operates in back of the case is designed to permit adjustment to different sized lines without use of shims. Large numerals are spread over 360° of dial circumference, and stand out clearly day or night. The gauge case is made entirely of government-specification bronze. The diaphragm unit of the instrument is an integral part of the case, contributing to light weight, compactness and easy portability. The indicator is made for accuracy and long life at low operating cost.



M-D Rate-of-Penetration Recorder

M-D Slim-Hole Weight Indicator

Rate-of-Penetration Recorder is an automatic time-drilling instrument for measuring and recording rate of bit penetration. It is described as accurate, sensitive and easy to use, showing formation breaks as they occur and charting a clear, continuous record while drilling. The instrument has three parts—a water reservoir attached to the swivel, a small-diameter rubber hose connecting the reservoir to a special low-range pressure recorder using charts calibrated in feet of penetration. The system is filled with fresh water, or an anti-freeze solution for cold weather. The recorder charts the rate of changes in hydrostatic pressure from the reservoir as the kelly lowers while drilling, which, accurately calibrated, gives bit penetration rate. The information is valuable in deciding the coring program, in determining porosity of limestone formations, as a supplement to the electric log, as a guide for future production work and as a check on equipment performance.

REPRESENTATIVES: E. L. Decker, L. A. Crawford, D. E. Waters and J. Clemens.

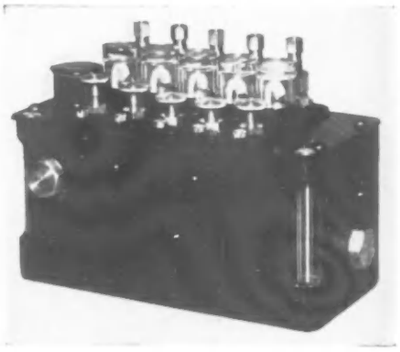
McCord Radiator & Manufacturing Company

DETROIT, MICHIGAN
Booths 72-73 Oklahoma Bldg.

EXHIBIT: Lubricators. Chemical pumps.

NEW PRODUCT:

Type VF Vacuum Feed Lubricator features a new transparent non-breakable plastic material used in the sight feed to improve visibility, improved



McCord VF Vacuum Feed Lubricator

appearance, cast iron reservoirs for greater strength and rigidity of pump mountings. It is individually adjusted and removable without engine stopping.

REPRESENTATIVES: W. G. Hancock, general sales manager; W. J. Powers, sales manager; J. S. Lyall, field representative, and Ralph Urso, sales department.

Union Chain & Manufacturing Company

SANDUSKY, OHIO
Booths 37-38 California Bldg.

EXHIBIT: API oilfield chain. Machine finished roller chain. Silent chain flexible couplings. Cast and cut tooth sprockets.

REPRESENTATIVES: E. F. Emmonds, Perry Catron, E. J. Buder, Norman Reis, Pargny McCune, E. F. Knerr, and J. H. Castleberry.

Smith Welding Equipment Corporation

MINNEAPOLIS, MINNESOTA
Frick-Reid Bldg.

EXHIBITS: Oxy-acetylene welding equipment. Acetylene generators. A. C. arc welders.

NEW PRODUCTS:

"Type J" Two-Stage Portable Acetylene Generator—All water in the generator chamber is circulated by a non-mechanical air lift device which simultaneously cools and scrubs the newly generated acetylene gas. This completely automatic circulation of the

water within the generator eliminates the hot belt at the water line. The size 14 ND carbide is fed into the water as needed by a large pressure regulating diaphragm type feeding mechanism. Generated acetylene passes through the water circulating device through the hydraulic back pressure valve and filter tank. Here it passes through another pressure regulator which may be set at the desired outlet pressure. This reg-

Smith Type J Two-Stage Portable Acetylene Generator

ulator has a large 6 inch diaphragm and controls the flow of gas so as to positively eliminate the fluctuation of pressure upon which the operation of every automatic acetylene generator is dependent. Simplicity of operation and portability are featured in these generators which are available in 15, 30 and 50 pound sizes.

REPRESENTATIVE: C. E. Porter.

McLaron Distributing Company

TULSA, OKLAHOMA

Cincinnati Ball Crank Company

Joyce-Cridland Company

DAYTON, OHIO

Ohio Pattern Works

Quincy Compressor Company

Booth 99 Kansas Bldg.

EXHIBITS: Lubricating equipment of Cincinnati Ball Crank Company. Hydraulic lifts of Joyce-Cridland Company. Valves of Ohio Pattern Works. Air Compressors of Quincy Compressor Company.

REPRESENTATIVES: T. E. McLaron, R. L. Faubion, K. A. DeVore.

Jenkins Bros.

NEW YORK, NEW YORK
Booths 41 and 259 Oklahoma Bldg.

EXHIBIT: Iron valves with improved parallel seat, double-disc seating arrangement. Cast and stainless steel valves. Bronze valves for special oil services.

Jenkins Valve

REPRESENTATIVES: H. J. Barnsley, assistant chief engineer; F. J. Klemann and W. Boyce White, oil field territory sales engineers.

Hanlon-Waters, Inc.

TULSA, OKLAHOMA
Booth 128 Texas Bldg.

EXHIBIT: Automatic control equipment. Separators. Gas scrubbers. Bolted tanks. American air filters.

NEW PRODUCT:

Type 46 Level Controller is designed for control of light-gravity liquids and for high working pressures. There is no stuffing box incorporated in its construction. It is also applicable for specific gravity controllers where the service does not require corrections for temperature variation. A standard unit is adjustable in the field for level control of interface between any two liquids, or for level control of all liquids from the heaviest to the lightest. The unit is an elongated float chamber with float, torsion tube assembly and pressure-compensated pilot. The tubular steel float is at all times in static balance with the torque of the torsion tube assembly. A variation of liquid level changes the torque in the tube by virtue of the bouyance of the submerged portion of the float, thereby causing a transmission of movement to the pilot vane to change the pilot transmitted pressure. The housings are made in all working pressures and lengths in accordance with A.P.I.-A.S.M.E. code requirements. Torsion tube housing extension will dissipate heat to eliminate necessity of using a finned cooling section when used on high temperature service. Float rods and all parts of the torsion tube assembly are of 18-8 stainless steel. The high capacity pilot mechanism is fully adjustable as to direction of action and throttling range. All pilots are equipped with indicating gauges on supply pressure and diaphragm pressure as well as operating medium strainer regulators as standard equipment. Mercury tube switches may be applied to the installation for high or low level alarms. Liquid level sight gauges can be furnished when desired.

Hanlon-Waters Type 46 Level Controller

REPRESENTATIVES: C. C. Herndon, general manager, and L. J. Griffy.

Vortox Manufacturing Company

CLAREMONT, CALIFORNIA
Booths 3 and 256 Oklahoma Bldg.

EXHIBIT: Oil bath air cleaners.

NEW PRODUCTS:

Oil Bath Air Cleaners—All units on display have been introduced in the past two years. A principal feature of the exhibit is the new multiple cup Vortox cleaner, particularly suited for oil field installations. The size shown in the booth is for medium engine sizes which have capacities up to 600 or 700 cubic feet per minute. Another feature of the exhibit is a special demonstrator or working model showing details of construction and operation.

REPRESENTATIVES: L. A. Thompson, Mid-Continent and Gulf Coast representative; O. A. Lohrke, Eastern representative; James M. Judy, sales manager from Claremont, California.

Universal Carloading & Distributing Company Division of United States Freight Company

NEW YORK CITY
Booth 22 Kansas Bldg.

EXHIBIT: Oil industry freight handling.

REPRESENTATIVES: Austin E. Boyd, R. T. Weaver, Kenneth Baker and Bert Wilson.

Linde Air Products Company

NEW YORK, N. Y.

Haynes Stellite Company

KOKOMO, INDIANA
Booths 17-21 Texas Bldg.

EXHIBITS: Linde Air Products Company: Active demonstrations of machine flame-cutting in the fabrication of oil field equipment. Flame-hardening. Multi-flame tips. Gauging blowpipe for controlled removal of surface metal. Oxweld, Purox, and Prest-O-Weld oxy-acetylene equipment and supplies. Presto-O-Lite air-acetylene equipment.

Haynes Stellite Company: Drilling bits hard-set with Haystellite alloys. Haystellite rod. Haynes Stellite alloy for hard-facing valve gates and seats. Demonstrations of resistance to various acids.

REPRESENTATIVES: R. L. Lerch, C. W. Metzger, F. M. Alexander, Haynes Stellite Company.

Pittsburgh Steel Company

PITTSBURGH, PENNSYLVANIA
Booths 4-6 Texas Bldg.

EXHIBIT: Cut-a-way samples of seamless A.P.I. casing, drill pipe and tubing. Special acme-thread double-seal casing with six-pitch modified acme-type threads to make the joint quick-stabbing and fast-running. Special drill pipe with tapered double-grip joint. Special acme-thread oil well tubing. Seamless drill pipe with unitized tool joints. Operating model of internal pressure testing machine demonstrating hydro-static tension testing.

REPRESENTATIVES: W. G. Hume, general manager of sales; J. K. Beeson, assistant general manager of sales; L. A. Mullen, assistant manager of sales; E. R. Smith, assistant manager of sales for oil country tubular products; E. J. Protin, assistant manager of the tube division; E. T. Wible, manager of product promotion; S. E. Elder, Tulsa district sales manager; A. S. Vandervoort, Jr., Houston district sales manager, and John Wais, George W. Novak and W. B. Baylor, field engineers.

Chicago Metal Hose Corporation

MAYWOOD (Chicago), ILLINOIS
Booth 4 Kansas Bldg.

EXHIBITS: Rex-Weld flexible connections for pumps. Loading and unloading hose. Insulated steam hose. Diesel exhaust hose. Avioflex hose. Stainless steel Rex-bellows. Stainless steel bellows. Oil well stuffing box.

NEW PRODUCTS:

Rex-Weld Hose—Of exclusive, one-piece corrugated construction, flexible, remains leakproof at high temperatures and pressures. For use as a flexible connection for pumps, tanks, centrifuges, burners, Ethyl blending tanks, laboratory equipment, etc. Serves to eliminate vibration, dampen noise, and take care of a reasonable amount of misalignment when used as pump connections.

Chicago Metal Hose long steel flexible unit with Series 15 flanges welded at each end, a two-inch all-steel unit with nipples welded each end, a stainless steel Rex bellows unit with stainless steel nipples resistance seam-welded at each end, and a ¼-inch Rex-Weld hose with reattachable type Rex-Tite coupling at each end.

RT15 Flexible Hose—Made in strict accordance with U. S. Navy specifications. Used for conducting of steam, water, unloading oils and chemicals from tank cars, oil under pressure.

Avioflex Hose—For fuel and oil lines on engines and machine tools.

Diesel Exhaust Hose—Used as a connection for absorbing engine vibrations in exhaust lines and taking care of movement due to flexible mountings.

Rex-Bellows—Made from 18-8 stainless steel and are corrosive resistant, have minimized fatigue factor, flexibility with strength of stainless steel.

REPRESENTATIVES: Warner Lewis, Tulsa representative; Harold J. Gibson, sales engineer; A. S. Keller, sales manager.

E. D. Bullard Company

SAN FRANCISCO, CALIFORNIA
Booth 29 California Bldg.

EXHIBIT: Willson goggles and respirators. Wheat electric cap lamps and hand lamps. H & T safety derrick slide. Cylindrical first aid kit. Weatherproof first aid kit. First aid dressings and treatment. Venex snake bite pocket-packet. Tuff-Nut hardboiled hat. Gas mask.

REPRESENTATIVES: Alpheus Bull, sales manager, and T. H. Felds, Houston office manager.

Wilson Manufacturing Company

WICHITA FALLS, TEXAS
Block Q Outside

EXHIBIT: Telescopic leg derrick. Titan model streamlined drilling rig with air controls, powered by two V-12 Le Roi gas-butane engines. Giant model streamlined drilling with air controls, powered by two convertible Caterpillar V-8 gas Diesel engines. Mogul model streamlined drilling rig with manual controls, powered by two Model M-858 Buda gas-gasoline engines. Utility unit, complete with H-173 Buda engine, 5-KW generator, 1-inch centrifugal wash-down pump and air compressor. Super model motor winch complete with seat controls, with internal expanding drum friction clutch and K-428 combination gas-gasoline engine. Master model motor winch complete with internal expanding-drum friction clutch with Ford V-8 engine and with single 45-foot telescoping mast pole; mounted on International Harvester DS-30 truck. Mogul model double-drum rocking arm spudder winch with splash-circulating

Wilson Telescopic Leg Derrick

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Export Representative, Petroleum Machinery Corp.
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" 6—Theories of Ownership
" 7—Estates Created by Acts of Parties
" 8—Estates Created by Operation of Law

Part III—Law of Oil and Gas Leases
Chapter 9—The Commercial Lease
" 10—Bonus and Term Clauses
" 11—Rentals
" 12—Royalties
" 13—Implied Covenants and Forfeiture
" 14—Public and Quasi-Public Lands and Leases
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Williams' "Superector" is made in 5 sizes—24 to 53". It handles both Hex and Square Sockets with 1 to 4⅝" openings. Socket hole extends clear thru so nuts may be turned all the way down on any length bolt.

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brake rings in both drums, with internal expanding drum friction clutches, and with GAKU Waukesha combination gas-gasoline engine. Super model double-drum rocking arm spudder winch with air-cooled brake rings in both arms; internal expanding drum friction clutches and PA-100 International Harvester combination gas-gasoline engine.

NEW PRODUCT:

Telescopic Leg Derrick is 96 feet high with racking platform, four sheave in line crown block with cross bracing to strengthen the unit. Has exclusive method of construction.

REPRESENTATIVES: J. H. Wilson, president; V. M. Ligon, sales manager; and J. V. Wintle, Russell Moore, H. V. Frazee, B. A. McCullah, Jack Ligon and Jack Wilson.

Wichita Engineering Company

WICHITA FALLS, TEXAS
Block Q Outside

EXHIBIT: Roller drive and truck equipment in conjunction with Wilson Manufacturing Company.

REPRESENTATIVES: S. T. Mendex and G. H. Brown.

Morrison Bros. Company

DUBUQUE, IOWA
Booth 6 Kansas Bldg.

EXHIBIT: Valves and fittings for refining and marketing.

REPRESENTATIVES: W. W. Dauner, sales manager, and E. A. Schneider, assistant sales manager.

Pacific Pump Works

LOS ANGELES, CALIF.

Mid-Continent Pump Supply Company

TULSA, OKLA.
Booths 229-230 Oklahoma Bldg., also with Bovaird Supply and Mid-Continent Supply

EXHIBIT: Oil well pumps. Cages.

NEW PRODUCTS:

One-Piece Valve Blind Cage with integral hardened ball guides and bumper are made from solid bar stock, and there is no chance of the ball guides and bumper coming loose and damaging any part of the pump. Passages are fully streamlined not only above the upper limit of the valve ball but also at the point of emergence of the fluid from the valve seat to eliminate any possibility of emulsifying the well fluid.

Pacific One-Piece Valve Blind Cage

Pacific Streamlined Cages and fittings are demonstrated in a plastic working model pump. Fluid action is clearly visible together with the valve action at the upward and downward stroke of the pump.

Pacific Metallo-Seal Pump is a new metal-to-metal seal pump, engineered on the principle of maxium passages for unrestricted fluid flow. This new pump utilizes the Pacific Moloy Liner Metal for an effective seal as a plunger in a specially finished precision tube. Pacific Moloy Plungers' resistance to galling is considered of paramount importance by the manufacturer, as a closer fit is said to be possible than if the plunger were made of steel or similar material. The Metallo-Seal Pump represents the metal-to-metal seal design in simple form. The pump shown is the rod traveling type with 3-cup hold-down, but any A.P.I. hold-down or locking means may be employed. The closer fit made possible by the "Moloy XX" Hard Plunger operating in the smooth precision tube is said to greatly reduce fluid slippage and to result in a pump efficiency considerably higher than the first low cost would indicate. Plunger sizes are 1½, 2, 2½ inch for tubing sizes of 2, 2½ and 3 inch in standard lengths.

Pacific Metallo-Seal Pump

GC-2800 Insert Liner Pump has top-hung seating head and lock hold-down.

REPRESENTATIVES: Roy Dunbar, president; Ralph Van Matre, vice president; Tom Hamilton, sales manager; Milt O'Haver, G. F. Graham, Cliff Miller, D. E. Harder, Paul Coonrood, Don Schnobrick, Mack Barton and Ted Smith, plant superintendent.

Gilbert & Barker Manufacturing Company

SPRINGFIELD, MASS.
Booths 189-190, Kansas Bldg.

EXHIBIT: Gilbarco Model 96 Calcometer pumps with towerlites.

REPRESENTATIVES: W. C. Leitch, pump division sales manager; W. M. Harks, midwestern regional manager, and R. L. Faubion.

Frick-Reid Supply Corporation

TULSA, OKLAHOMA

Joseph Reid Gas Engine Corporation

OIL CITY, PENNSYLVANIA

Cabot Shops, Inc.

PAMPA, TEXAS

Beaumont Iron Works Company

BEAUMONT, TEXAS

Century Electric Company

ST. LOUIS, MISSOURI

Axelson Manufacturing Company

LOS ANGELES, CALIFORNIA

Midwest Piping and Supply Company

ST. LOUIS, MISSOURI

Republic Rubber Division of Lee Rubber & Tire Corp.

YOUNGSTOWN, OHIO

Revere Copper and Brass, Inc.

NEW YORK, NEW YORK

Gilmore Wire Rope Division of Jones & Laughlin Steel Corp.

MUNCY, PENNSYLVANIA

Whitlock Cordage Corporation

NEW YORK, NEW YORK

Linear Packing and Rubber Company

PHILADELPHIA, PENNSYLVANIA

Smith Welding Equipment Corporation

MINNEAPOLIS, MINNESOTA
Frick-Reid Bldg.

EXHIBIT: Reid gas engines. Cabot pumping units. Beaumont casing and tubing head. Century electric generators and motors. Axelson pumps and sucker rods. Midwest welding fittings. Republic belting and hose. Revere brass tubes. Whitlock manila rope and cable. Gilmer wire rope. Linear packing. Smith welding products.

REPRESENTATIVES: K. J. Kopp, Fort Worth; Rainey Elliott, Dallas; A.

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Unit Rig & Equipment Company

TULSA, OKLAHOMA
Adjoining Hall of Science

EXHIBIT: Several models of Unit drilling and servicing units, including Model U-10 with Twin Disc clutches, Model U-10 complete equipped with Unit's newly designed Air-O-Matic disc type friction clutches, Model U-16 double drum service hoist complete with spudder, Model U-17 single drum servicing unit, Model U-17 and U-19 combination drilling and servicing unit complete with Model U-20 telescoping mast.

NEW PRODUCTS:

Unit Model U-10 Rig is a rotary drilling unit with a capacity of from 2500 to 6000 feet with 4½-inch drill pipe when powered with suitable engines. This streamlined, fully enclosed unit is of such compactness it can be handled in one truck load. Manufacturers state it can be moved and set up as quickly as so-called slim hole rig, yet has capacity to drill full size oil. It has an oil bath chain transmission with a system of friction clutches that permit rapid changing of speeds.

Unit Rig Air-O-Matic Disc Type Clutches is a new development shown on one of the Unit Model U-10 rigs. These clutches further reduce adjustments and increase the drilling capacity of the machine. These clutches are of the air type, but are not to be confused with air-controlled friction clutches. Air-O-Matic clutches are designed specially for oil field drilling service and have no adjustments whatever. They are made heavy for heat absorption and are mechanically rugged. Provision is made for forced air cooling, and on long hoisting trips when loading conditions on the clutch are unusually severe. There are no chain adjustments whatever in the U-10 transmission, only one point brake adjustment, and 95 percent of the moving parts run in oil.

REPRESENTATIVES: Hugh S. Chancey, Ray E. Carter, Wm. Guier, W. H. Messenger, M. P. Loftis, L. C. Island, Ray Laudenback.

Cameron Iron Works, Inc.

HOUSTON, TEXAS
Booth 84 Texas Bldg.

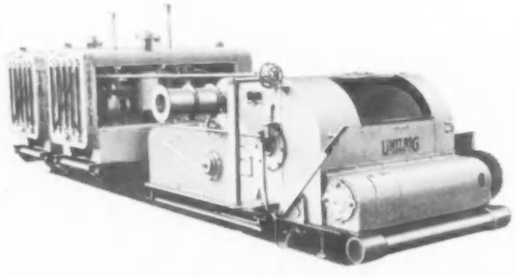
EXHIBIT: Casing heads. Ram type tubing control heads. Christmas trees. Flow wings. Mud valves.

NEW PRODUCTS:

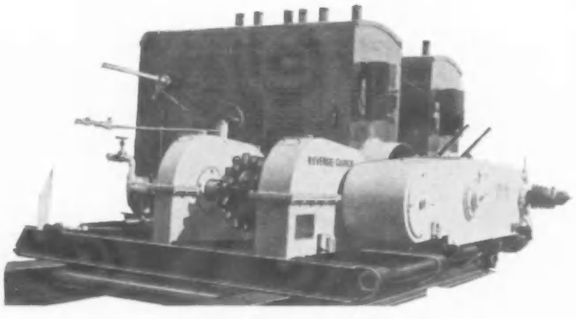
Type "LD" Ram Type Tubing Control Head serves a four-fold purpose, the manufacturer states: (1) It provides safe, dependable control during every step of the completion operation; (2) provides three proven methods of suspending and sealing the tubing strings; (3) obviates the need of a cement retainer when making a squeeze job; (4) it is practical on any reworking subsequent to original completion of the well.

Casing Heads and Spools—Featuring several methods of sealing and suspending casing strings are exhibited. Four methods of suspension and sealing are interchangeable in all Cameron heads. Type "M" provides slip suspension and a welding flange with a test-weld feature and a secondary repackable plastic packing seal. Type "J" features slip suspension and a regular welding flange. Type "W" provides slip suspension and a neoprene seal between casing strings. Type "P" features a boll-weevil hanger and a secondary repackable plastic packing seal around the shank of the hanger.

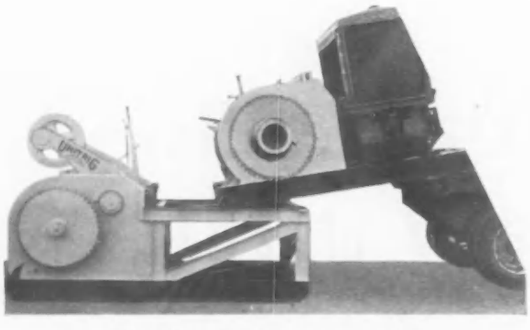
Type "A" Flow Wing combines in a single unit the double function of a valve and quick-change positive flow



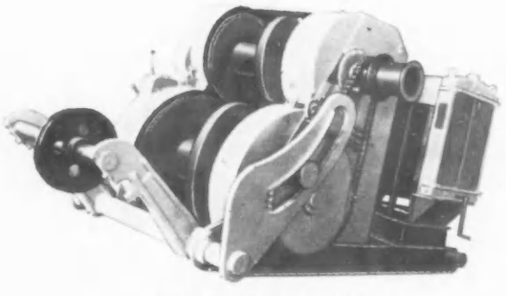
Unit Rig Model U-10



Unit Rig Model U-12



Unit Rig Models U-17—U-19



Unit Rig Model U-16

bean. It permits changing flow beans without breaking out a connection and without closing the wing valves or master valve. Pressure is shut off by screwing a valve stem against a seat. Both the valve stem and seat are faced with hard metal to resist cutting. Two turns of a clamp screw releases the flow-bean. Reversing this procedure puts the well back on production. The valve stem and clamp screw are packed with plastic packing, which may be replenished under pressure.

REPRESENTATIVES: E. L. Lorehn, M. T. Works, Herbert Allen, J. M. Teague, Sandy Elder, Gene Teer and Frank Crow.

Franks Manufacturing Company

TULSA, OKLAHOMA
Block Z Outside

EXHIBIT: Telescoping servicing derrick. Portable rotary drilling unit with self-raising derrick, crown block, swivel, kelly, rotary table, drawworks, pumps and power unitized on a truck.

NEW PRODUCT:

Franks 84-Foot Telescoping Servicing Derrick, truck-mounted, contains either a single- or double-drum servicing winch, crown block and lines. The derrick is raised and extended by a built-in mechanical device powered by

Franks Telescoping Service Derrick

the truck engine, while the winch is operated through a power take-off by the truck motor. The derrick is designed to be raised, extended, locked and guyed within 20 minutes. Capacity of the tubing platform is 6500 feet of 2½-inch tubing. The unit is designed to service approximately 100 wells and eliminate the need for individual servicing derricks.

REPRESENTATIVES: H. H. Franks, Carl White, Jr., W. R. Brosn, R. M. White, L. W. Hoble, A. V. Simonson, W. B. Woody, W. G. Newhouse, J. W. Hornbrook, Fern H. Mason, A. W. Conwell, James Moon, J. M. Rutledge, A. E. Masek, M. Pallein, G. S. Breneman and H. L. Palmer.

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[*Continued from page 60*]

tion factor, let it be assumed that the gas analysis line pressure and temperature is as follows:

EXAMPLE
Analysis of Gas

Constituent	Mol Fraction
methane	.850
ethane	.088
propane	.034
iso-butane	.009
n-butane	.010
iso-pentane	.004
n-pentane	.002
hexane + as heptane	.003
	1.000

Line pressure = 1630 pounds gauge or 1644.7 pounds per square inch absolute
Temperature = 70.0° F. or 530.0° Rankine

The critical temperatures and pressures of hydrocarbon gases, in general composing natural gas, are as follows:

	T_c	P_c
methane	344	673
ethane	549	717
propane	667	617
iso-butane	732	544
n-butane	766	545
iso-pentane	829	483
n-pentane	846	485
hexane + as heptane	972	397

where T_c = critical temperature
P_c = critical pressure
Pseudo temperature = $T_c \times$ Mol Fraction
Pseudo pressure = $P_c \times$ Mol Fraction

With the gas analysis available in percent by volume this figure is also the mol fraction of the respective constituent in the gas. Therefore the respective pseudo temperature is equal to the mol fraction or percent by volume of each constituent times the respective critical temperature or pressure. The results are as follows:

	Pseudo temp.	Pseudo pres.
methane	292.4	572.0
ethane	48.3	63.1
propane	22.7	21.0
iso-butane	6.6	4.9
n-butane	7.7	5.5
iso-pentane	3.3	1.9
n-pentane	1.7	1.0
hexane + as heptane	2.9	1.2
	385.6 deg. Rankine	670.6 lbs. per sq. in. abs.

Having calculated pseudo temperature and pressure, the reduced pseudo temperature and pressure may be obtained as:

T_r = Pseudo Reduced Temperature

$$T_r = \frac{\text{Line Temperature}}{\text{Pseudo Temperature}}$$

$$T_r = \frac{530.0}{385.6} = 1.377$$

P_r = Pseudo Reduced Pressure

$$P_r = \frac{\text{Line Pressure}}{\text{Pseudo Pressure}}$$

$$P_r = \frac{1644.7}{670.6} = 2.45$$

With values of P_r and T_r known by reference to Figure 2, it will be observed that the compressibility

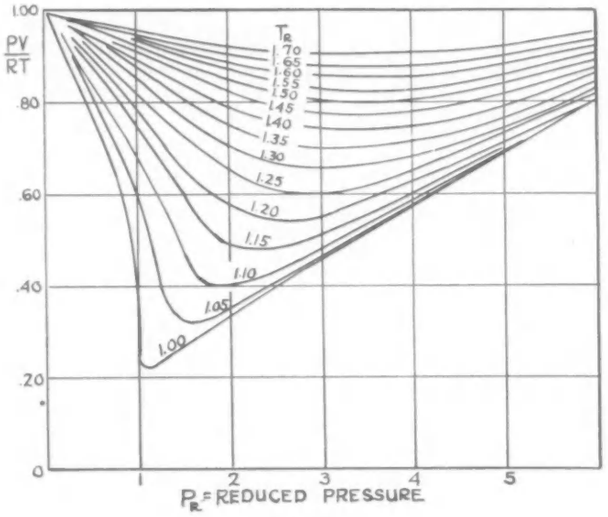

FIGURE 2

factor or ratio of actual to theoretical volume will be .71,

$$\text{or } \frac{PV}{RT} = .71$$

This figure suggests that the observed volume will only be 71 percent of the actual volume when the gas is referred to standard conditions of pressure and temperature. If the measurements are made by flow instruments, the following method of obtaining the factor F_{pv} is recommended:

Application to Metering (Flow Instruments)

F_{pv} = Super Compressibility Factor

$$F_{pv} = \sqrt{1 + N}$$

Where
N = deviation multiplied by 100 percent deviation from Boyle's Law

$$N = \frac{\frac{100}{(PV)} - 100}{(RT)} = \frac{100 - 100}{100} = \frac{.71}{100} = .41$$

$$F_{pv} = \sqrt{1 + .41}$$

$$F_{pv} = \sqrt{1.41}$$

$$F_{pv} = 1.19$$

Therefore the volume as obtained from a flow meter must be multiplied by 1.19 to obtain the correct volume. Should displacement methods of measurement have been used this factor would have been 1.41.

Laverty[8] has produced calculations to show that this method of calculating the deviation factor at high pressure and temperatures gives results in agreement as to the method, as proposed by Kvalnes and Gaddy[9]; however, it must be noted that these methods give results in error when applied to the two-phase region where gas and liquid are present. Methods of deviation calculations in the two-phase system at the present time have not been developed to the point of satisfactory practical application.

References

[1] Getman and Daniels, **Outlines of Theoretical Chemistry.**
[2] Hamline, Kvalnes, and Gaddy, **Journal of American Chemical Society,** page 394, February, 1931.
[3] U. S. Bureau of Standards, Circular No. 279.
U. S. Bureau of Standards, Miscellaneous Pub. No. 71.
[4] Diehl, John C., **Natural Gas Handbook,** page 201.
[5] Cope, Lewis and Weber, **Industrial and Engineering,** Volume 23, August, 1931.
[6] Lewis and Luke, **Industrial and Engineering Chemistry,** 25, 725, (1933).
[7] Kay, W. B., **Industrial and Engineering Chemistry,** 28, 1014 (1936).
[8] Laverty, F. W., **Oil and Gas Journal,** November 2, 1939.
[9] Kvalnes and Gaddy, **Journal of American Chemical Society,** Volume 53, 394 (1931).

HIGHLIGHTS IN THE WEEK'S NEWS

Allowables

Texas Commission Faced With Excess Production Problem

A material reduction in the Texas allowable is likely to be the most important subject before the statewide hearing May 20. During the past 10 days, the three Texas Railroad Commissioners have expressed the opinion that a material cut was necessary, and have agreed that the allowable for June and July should approximate the estimate of consumer demand to be received from the United States Bureau of Mines.

The primary difference between commissioners seems to be on the method to be followed. Commissioner Jerry Sadler has suggested that a 15-day shutdown of all wells may be necessary and said he would recommend that this be applied during the latter 5 days of May and the first 10 days of June. He made no mention of any effort to obtain the cooperation of other oil-producing states in such a shut-down program, and, for this reason, it is believed Texas oil producers would oppose such a plan vigorously.

Commissioner Ernest O. Thompson has recommended a reduction in the daily well allowable and may approve a plan which would accomplish this purpose through shut-downs one or two days a week, closing the fields a sufficient number of days to keep the total allowable for June within the bureau estimate.

Commission Chairman Lon Smith has expressed opposition to an extended shutdown period, and seems inclined to approve closing fields oftener on a one- or two-day basis.

Reports reaching the commission last week were somewhat confusing in that several major companies indicated they were still anxious to buy oil from selected areas. As an instance of this selective buying which appears to be more prevalent than it was a year ago, the commission has received an application for 7000 barrels of crude from the Conroe field. This application Smith said, is being held in abeyance until evidence is presented at the statewide hearing. He intimated, however, that unless there was some serious opposition offered at that time, the increase would be granted. This oil is to go to the French government, and there is a question as to the ability of the purchaser to transport it.

Meanwhile, Sadler pointed out that he expected nominations by purchasers for oil to be produced in June to be materially lower than they were last month. The figures coming in last week will not be available to the public until May 20. Some investigation was being made of those fields which have consistently produced less oil than was assigned to them, and Thompson was attempting to make a storage survey to determine just how much oil is held above ground now.

Thompson also expressed interest in the increasing tanker rates on coastwise shipments. He cited figures to show that in July, 1939, the cost was 14¾ cents per barrel from Gulf Coast ports to Hatteras, including the port of New York. In February, these charges rose to 73 cents a barrel and are currently quoted at about 53 cents.

Thompson said that he was in communication with a congressional committee recently named to investigate this variation in rates, and pointed out they are not regulated by any governmental agency.

He said it was simple for large companies owning tankers to raise the transportation cost to a point that would prohibit independent refiners from making a profit. The other concerns, even though they failed to make a profit on the refined product, would be able to get a rebate in the form of dividends from the transporting company to offset the loss. He indicated this would be brought out at the hearing Monday.

Meanwhile, Sadler was investigating reports of pipe line proration in fields in North Texas and West Texas and attempting to determine whether any wells were unconnected in these areas.

It seemed entirely possible that the commissioners might agree on an extended order—one to remain for three or possibly four months. All commissioners have committed themselves to this plan, but differ only on the number of months it should run. They see in this proposition an opportunity to stabilize the industry during the high-consuming season.

Six Texas Independent Groups to Ask Month-to-Month Orders

Restriction of Texas' crude yield to the level recommended by the Bureau of Mines and the continuation of 30-day orders carried the endorsement of officials and representatives of six independent-producer organizations at the conclusion of a meeting held at Wichita Falls May 13. The group formed a committee of 11 to submit their proposals to the Texas Railroad Commission at the May 20 hearing on June schedules.

The meeting was sponsored by D. H. Bolin of Wichita Falls, president of the North Texas Oil & Gas Association. Other organizations represented were Permian Basin Association, West Central Texas Oil and Gas Association, East Texas Oil and Gas Association, Panhandle Producers and Royalty Owners Association, and Independent Oil Producers Equity Association.

A program was outlined whereby the organizations hope to present a solid front in promoting the welfare of the oil industry in Texas. Proposed objectives involve educational activities on tax matters, with J. D. Sandefer, Jr., of Breckenridge as temporary chairman until a permanent body is set up.

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Legislation

Senate Committee Approves California Off-Shore Measure

Influenced by the Administration's drive for an adequate national defense, the Senate Public Lands Committee last week gave its approval to the Nye resolution aiming at nationalization of the California off-shore oil fields.

The committee, however, abandoned both the idea of immediately securing the oil reserves for the Navy and the limitation of the effort to California, and rewrote the resolution so as to direct the United States Attorney General to institute and maintain to a final determination proceedings for the purpose of asserting the right of the federal government to all submerged lands off the coasts of the United States, subject only to any valid existing rights of the states or citizens thereof heretofore granted by the federal government, and for the ejection of all trespassers.

As rewritten, the resolution stipulates that no proceedings shall be brought under the right of eminent domain, and leaves the disposition of oil or other deposits to be determined after the government's title has been tested.

In its report, the committee explained that the matter has been before Congress for a considerable period and has also been the subject of study by the Department of Justice, the latter believing that it should have Congres-

sional instructions before making any attempt to assert the federal title to the off-shore lands.

"The property involved in this conflict of opinion is of very great value," the committee said in referring to the opposition which has been expressed by representatives of the coastal states and the various interests engaged in exploitation of underwater oil fields and other deposits or having investments in facilities on lands which would be involved.

"The controversy, in the opinion of the committee, is purely a legal one and its decision of much importance. The committee acted as a legislative committee. It would not attempt to pass judgment on the legal question involved and were of the opinion that the matter should be referred to the Attorney General in order that he might take such action as he thought proper to protect the interests of the United States."

As originally drawn, it was pointed out, the resolution contained certain declarations as to title and provided for the setting aside of the oil deposits as a naval reserve. The committee recommended amendment of the measure so as to eliminate any legislative declaration upon the question of title and any disposition of the property.

Under the resolution, as now written, the question of the government's title to lands lying between low-water mark and the three-mile limit may be presented for determination in a single proceeding dealing with the question in its broadest aspect.

Because of the fact that the various states are basing their opposition to federal seizure on the varying conditions under which they entered the Union, particularly California and the Gulf states, it is possible that more than one proceeding may be brought, each to test the claims of an individual state.

In a telegram to Governor W. Lee O'Daniel of Texas, Senator Tom Connally expressed the belief that the Senate would not approve the measure. At the hearings more than a year ago, he said, the Public Lands Committee was convinced that "as to the case of Texas no title whatever could be claimed to exist in the federal government." The case of some other states is weaker, however, he added, assuring the governor that he "shall do all within my power to protect the interests of Texas and title to its submerged coastal lands."

Bureau of Mines Making Study of Well Spacing

Major problems of the oil industry, such as the increased recovery to be expected from the wide spacing of wells, the control of gas-oil ratios and the like, are under intensive study in the Bureau of Mines, it was disclosed last week by the annual report of the petroleum and natural gas division for 1939.

Drawing few conclusions, which have been previously published in technical papers or discussed at industry meetings, the report stressed that the study of these problems must be continued for a period of years before any final determinations can be made.

This is particularly true, it was pointed out, with respect to the question of well-spacing.

"No satisfactory method has been developed so far for determining the quantity of oil a well or field will produce ultimately when production from the well or field is restricted and maintained at a relatively constant rate for long periods," it was declared. "Formerly, production-decline curves gave reasonably accurate estimates of ultimate oil production, but such methods cannot be used where production decline is retarded or where wells are operated for long periods at restricted rates.

"The probable relationship between well spacing and ultimate oil recovery in fields now being developed, where production rates are restricted under proration measures, requires assembling of data over a period of years. Not only must well-spacing and oil-production data be collected and analyzed, but detailed information on porosity, saturation, thickness of the producing formation, and other factors also are required before the actual quantity of oil originally in the reservoir can be determined."

Similarly, it was said, long studies must be made of the control of gas-oil ratios as a means of bringing about gas conservation and efficient production of oil.

"Effective measures for controlling the volume of gas that accompanies oil to the wellhead are sought eagerly by the industry, especially in fields where proration restrictions place appreciable penalties in lower oil "allowables" on wells that produce with excessively high gas-oil ratios, or where wells are closed in completely unless oil can be produced at a reasonable gas-oil ratio," it was pointed out.

Among the important subjects under continuous study by the bureau are the function of water in the production of oil, pressure core barrels, flow of air and gas through porous mediums, compaction of reservoir sands and rocks, the freezing of natural-gas pipe lines, and petroleum chemistry.

Federal Bureau Reports 1939 Motor Gasoline Use Increase

American automobile users consumed 20,638,000,000 gallons of gasoline last year, an increase of 5.8 percent over 1938, it was reported May 10 by the Public Roads Administration of the Federal Works Agency.

The increase of 1,134,000,000 gallons in consumption was shared by all the states except Kansas and North Dakota, where consumption decreased 0.9 and 3.6 percent, respectively, it was said.

In addition to the $206,380,000 in federal taxes indicated by the amount consumed, automobile users paid to the states, in state gas tax collections, inspection fees, dealers' license fees, fines and penalties, a total of $822,013,000, compared to $772,060,000 in 1938, the bureau found. Taxes in 1939 included $357,000 for aviation gasoline, but did not include $48,046,000 refunded on gasoline for non-highway use.

The average state gasoline tax was 3.96 cents per gallon in 1939, the same as in the preceding year, the individual state taxes ranging from 2 cents per gallon in Missouri and the District of Columbia to 7 cents per gallon in Florida, Louisiana and Tennessee.

Associations

Name Activities Committee of A.P.I. Production Division

The Central Committee on 1940 District Activities of the American Petroleum Institute's Division of Production has been appointed by George A. Hill, Jr., chairman of the division's general committee, C. A. Young, secretary of the division, has announced.

W. H. Meier, The Atlantic Refining Company, Dallas, is chairman of the committee on district activities, with D. T. Ring, Preston Oil Company, Columbus, Ohio, vice-chairman, and Young, secretary.

Members of the committee on district activities, representing district committees and other central committees of the division, are: R. N. McMaster, Chanslor-Canfield Midway Oil Company, Los Angeles; J. J. Schmidt, The East Ohio Gas Company, Cleveland; T. J. Hamilton, Mid-Continent Pump Supply Company, Oklahoma City; L. A. Ogden, The Pure Oil Company, Fort Worth; H. C. Pyle, Union Oil Company of California, Los Angeles; Ring; C. H. Keplinger, Shell Oil Company, Wichita; E. P. Hubbard, Gulf Oil Corporation, Houston; John R. Suman, Humble Oil & Refining Company, Houston; E. L. Adams, General Petroleum Corporation of California, Los Angeles; C. R. Weidner, Sinclair Refining Company, Independence, Kansas; M. E. Brock, Gulf Oil Corporation, Houston; R. E. Donovan, Standard Oil Company of California, San Francisco; C. E. Reistle, Jr., Humble Oil & Refining Company, Houston, and George P. Bunn, Phillips Petroleum Company, Bartlesville.

Pennsylvania Grade Producers Meet May 28

Operators in Ohio, West Virginia and Southwest Pennsylvania will meet in Marietta, Ohio, May 28 at the invitation of Philip N. Faine, New Straitsville, secretary of the Ohio Pennsylvania Grade Oil Producers' Association, to discuss production practices in the region.

Working with Faine on plans for the meeting are W. K. Harrington and R. J. Braden, Marietta; D. T. Ring, Columbus, and Thurman Myers, Pittsburgh.

North Texas Geological Field Trip May 25-26

The North Texas Geological Society will conduct a field trip for study of the Canyon and Strawn series in Young, Jack, Wise, Palo Pinto, Parker and Eastland counties, Texas, on May 25-26. It will be led by Monroe G. Cheney.

The group will convene at the Driver Hotel in Graham, Texas, on Friday evening, May 24, for a pre-trip discussion of the Pennsylvanian of the area. The trip will start at 8 a.m. Saturday, May 25, and Saturday night will be spent at the Crazy Hotel in Mineral Wells. Reservations are being handled by R. E. McPhail, Phillips Petroleum Company, Waggoner Building, Wichita Falls.

MEN IN THE INDUSTRY'S NEWS

JAMES C. GRAVES, Saginaw, president of Basin Oil Company and member of the firm that drilled the Saginaw field discovery in 1925, opening the state's first commercial oil field, was appointed for a 3-year term to the Michigan Oil Advisory Board by the State Conservation Commission. Graves will succeed Russell Furbee, vice president of Gordon Oil Company, whose 1-year term expires May 31.

Kurt de Cousser, Michigan resident manager for Socony-Vacuum Oil Company, was re-appointed for a 3-year term.

Graves becomes the only member of the 6-man board, created by the 1939 Oil Conservation Act, with direct business connections with the state refining industry. He is president of the Bay Refining Company, which operates a 3000-barrel topping plant at Bay City. He also is vice president of Goll, Graves & Mechling, drilling contractors; vice president of Bay Pipe Line Company, and president of Kirkham-Kales Producing Company.

Other members of the board are C. A. Smith, Jr., Grand Rapids, and E. F. Clagget, Saginaw, appointed in May, 1939, for 2-year terms, and Harold M. McClure, chairman, Alma, and W. P. Clarke, Saginaw, for 3-year terms. The act creating the board provides that three of the members shall be chosen from independent companies and three from major companies. Clark, Gulf Refining Company; Clagget, The Pure Oil Company, and de Cousser are the major-company representatives.

R. J. BRENNAN, vice president, treasurer and director of Forest Oil Corporation, Bradford, Pennsylvania, and affiliated companies, has resigned, effective June 1, to operate independently. His resignation leaves vacancies in the following other companies: Forest Petroleum Corporation, Forest Supply Company, Forest Production Company, Forest Development Corporation, Bradford-Penn Refining Company and Penn-Kansas Oil Company.

PAT BROACH, scout for the crude oil purchasing division of Standard Oil Company (Indiana) at Wichita, Kansas, will be transferred to Houston on June 1 to act in a similar capacity for Stanolind Oil Purchasing Company. Broach has been with the organization for 10 years, being stationed at Great Bend for 2½ years and for the past 1½ years at Wichita.

T. B. GREGORY, chairman of the board of the Lone Star Gas Corporation, Pittsburgh, accompanied by a group of bankers and capitalists, visited properties held by the firm in North Texas last week. Gregory predicted that within a few years surplus gas production in Texas will be drawn upon in supplying the fuel requirements of New York City.

H. R. MILNER was named president of Anglo-Canadian Oil Company when shareholders and directors of the Alberta producing company held their annual meeting in Calgary last week. Other officers named are F. P. Byrne, vice president; J. Grant Spratt, general manager, and W. L. Peaker, secretary-treasurer. E. G. Smith was added to the directorate.

F. A. GRASER, consulting petroleum engineer, last week discussed "Recent Developments in the Wilbur Zone, South of the Main Fault in the Long Beach Field" before the Los Angeles Basin Chapter of the American Petroleum Institute. Paul A. Millikin, tax consultant, discussed "Taxation of the Oil Industry in Los Angeles County," and J. A. Crutchfield, retired commander in the United States Navy, spoke on "Submarines."

DR. E. E. ROSAIRE and Dr. Leo Horvitz, of Subterrex, Houston, will discuss "Geochemical Prospecting for Petroleum" before the Southeast Texas Section of the American Chemical Society May 23 at the University of Houston. Both analytical procedure and interpretation of data will be covered by the speakers.

R. P. McLAUGHLIN, general manager of Burnham Exploration Company, discussed "Development of Petroleum Engineering in California" before the May meeting of the Coastal District of the Southern California Section, American Institute of Mining and Metallurgical Engineers. Carlton Beal, district chairman, presided.

W. A. MONTGOMERY, West Texas superintendent for Illinois Pipe Line Company the past 13 years with headquarters at Iraan, has been transferred to Casper, Wyoming, to become general superintendent. He succeeds P. W. Hennessy, who went to the main office at Findlay, Ohio.

RAY O. ARMSTRONG, formerly with the United States Bureau of Mines, has been appointed as third member of the Federal Tender Board, proration enforcement agency maintained in the East Texas field by the United States Department of Interior. The board has been short one member for more than a year.

DR. FOLKERT BRONS, Groningen, official of Bataafsche Petroleum Maaatchappij, production subsidiary of Royal Dutch Shell, has been visiting oil producing properties in the Mid-Continent area. He plans to spend a year in the United States.

DAN B. COURVILLE, field foreman for Gulf Oil Corporation in the Ward-Winkler County district, West Texas, has been transferred from Wickett to Odessa, where he will be assistant district productoin superintendent. He was relieved by E. A. Weichert.

CARL REISTLE, JR., chief petroleum engineer for Humble Oil & Refining Company, Houston, is on an eastern business trip. He will return via the American Petroleum Institute's mid-year meeting in Fort Worth.

M. E. BROCK, Gulf Oil Corporation, Houston, has been named chairman of the American Petroleum Institute's Division of Production 1940 Committee on disposal of Production Wastes. D. V. Stroop, of the institute, was named chairman. Members are: H. K. Arnold, Humble Oil & Refining Company, Houston; Kurt H. de Cousser, Socony-Vacuum Oil Company, Lansing, Michigan; D. B. Dow, Indian Territory Illuminating Oil Company, Bartlesville; E. M. Freeman, The Texas Co., New York; Fritz Karge, Union Oil Company of California, Los Angeles; R. B. Kelly, The Pure Oil Co., Olney, Illinois; R. S. Knappen, Gulf Oil Corporation, Tulsa; Glenver McConnell, Shell Oil Company, Tulsa; A. S. Ritchie, McPherson Drilling Company, Wichita; John A. Ritter, Sun Oil Company, Dallas; J. Samuelson, General Petroleum Corporation of California, Los Angeles; G. O. Suman, Tide Water Associated Oil Company, Oil Center, California, and William F. Taylor, The Carter Oil Company, Tulsa.

DR. W. C. KRUMBEING, department of geology, University of Chicago, addressed a dinner meeting of the Illinois Geological Society in Centralia May 17 on "Environment of Sedimentation." M. W. Fuller, The Carter Oil Company, is president, and L. W. Clark, Shell Oil Company, is chairman of the local committee.

NORMAN CLARK, Brownsville, Oklahoma, has been elected president of the Petroleum Engineers Club at the University of Oklahoma for 1941. Clarence H. Bowersock, Jr., of Oklahoma City, is vice president; Kenneth Lott, Norman, secretary-treasurer, and Fred Thompson, Norman, publicity director.

ALBERT CLINKSCALE, president of the Oklahoma City Geological Society, addressed that group May 13 on the Cumberland area of Marshall County. Bill Savage, University of Oklahoma student, presented an illustrated lecture on "Geology of the Grand and Bryce Canyons."

N. T. GILBERT, general manager of Midstates Oil Corporation, Tulsa, has been named chairman of the Budget and Finance Committee of the Independent Petroleum Association of America. T. F. Birmingham, president of Margay Oil Corporation, Tulsa, is vice chairman. Members are: J. K. Mahony, Mahony & Yocum, El Dorado, Arkansas; A. C. Mattei, Honolulu Corporation, San Francisco; Angus J. Crites, Anchor Oil Company, Maricopa, California; A. E. Johnson, Argo Oil Corporation, Denver; B. L. Majewski, Deep Rock Oil Corporation, Chicago; E. C. Moriarty, McPherson Drilling Company, Wichita; Eben W. Pyle, The Wolf Creek Oil Company, Wichita; Major B. A. Hardey, Shreveport; James C. Graves, Goll, Graves & Mechling, Saginaw, Michigan; C. J. Dexter, Berry & Dexter Drilling Company, Artesia, New Mexico; John M. Lovejoy, Seaboard Oil Company of Delaware, New York; Taylor M. Bishop, St. Albans Oil & Gas Company, Alexandria, Ohio;

Clyde H. Pape, Selby Oil & Gas Company, Tulsa; William J. Sloan, Sloan & Zook, Bradford, Pennsylvania; R. L. Wheelock & Collins, Corsicana, Texas; J. B. Cowden, Clark & Cowden Drilling Corporation, Dallas; J. P. Shannon, Snowden & McSweeney Company, Fort Worth; P. R. Rutherford, Rutherford Oil Corporation, Houston; L. A. Grelling, Tyler, Texas; V. M. Kirk, Kirk & Arnott Oil Company, Frannie, Wyoming, and W. S. Hallanan, Plymouth Oil Company, Charleston, West Virginia.

ERROL C. HOLT, Dallas, president of Midwest Refining Company, which operates a refinery at Artesia, New Mexico, has announced he will be a candidate for a place on the Texas Railraod Commission. Holt formerly operated a refinery in the East Texas field.

GORDON GRAY has been promoted chief scout for Humble Oil & Refining Company in the Corpus Christi division. He replaces Hoe Adams, recently transferred to the Louisiana division.

WALTER LAUNEY, from the Houston office of Humble Oil & Refining Company, is in Corpus Christi to act in a scouting capacity. His activities will center around the Laredo district.

M. J. LEONARD, Parkersburg, West Virginia, was elected director of the South West Pennsylvania Pipe Lines and Southern Pipe Line Company, succeeding W. P. Norris, retired.

W. A. P. SCHORMAN, consulting engineer for British American Oil Company, Toronto, last week toured the Turner Valley field of Alberta, Canada.

JEROME K. CROSSMAN, president of Ryan Consolidated Petroleum Corporation, visited Mid-Continent oil areas last week.

JACK TRENCHARD, with Whisenant, Trenchard & Dauchy, San Antonio operators, is spending several days in Indiana.

HOWARD D. ATHA last week was reelected president of the Gordon Oil Company at the annual stockholders meeting in Mt. Pleasant, Michigan.

DIED:

CHARLES CLEVELAND GHIO, 47, drilling and production superintendent in the Oficina field, Eastern Venezuela, for Mene Grande Oil Company, died at Caripito, Venezuela, May 11 after a brief illness. He entered the service of Gulf Oil Corporation in Mexico in 1921, and later was employed in Texas before transferring to Venezuela. His body was being returned to the United States for burial, probably at his old home in Arthur City, Lamar County, Texas.

W. PAUL GAGE, 68, former official of Lone Star Gas Company and later vice president and general manager of The Pure Oil Pipe Line Company of Texas, died May 15 of gunshot wound at his home in Dallas, where he had resided for 30 years. Gage helped organize the Lone Star Gas Company in 1909, and was on the first board of directors. He organized the crude transportation unit for the Humphreys Oil Company and The Pure Oil Company in 1921 to construct and operate a trunk line from the Mexia field to Smiths Bluff, Texas. He severed his connection with the carrier company when the Prairie Pipe Line Company acquired control in 1925.

BARNEY HEPLER, 57, president of Hope Engineering Company, died May 11 at a hospital in Houston, where he had made his home since February 1. He was also president of Rio Grande Valley Gas Company, Durango Natural Gas Company of Colorado and Texas Eastern Oil Company, which operates deep oil properties jointly with the Consolidated Oil Company in the K-M-A and Consolidated fields, North Texas. The latter interests were acquired in 1938 when the Hope Engineering Company and a group of North Texas independents proposed construction of an 8-inch crude line from K-M-A to Houston.

R. B. BAKER, 48, production foreman for Continental Oil Company in the Olney district, North Texas, was fatally stabbed May 13. He had been employed by the company 18 years, including 8 years at Olney.

ANDY BRUNER, 74, pioneer Oklahoma oil producer died May 9 at a Tulsa hospital following a short illness.

Lawrence Vander Leck Named California Oil Umpire

At its organization meeting last week, the newly elected Central Committee of California Oil Producers, state proration authority, voted to combine the offices of committee chairman and state oil umpire. Lawrence Vander Leck, who has served as committee chairman since August, 1935, was reelected to that office, and to the office of umpire.

John R. Pemberton, who has been umpire since June, 1932, retires. He has become widely known in the oil industry, and was nominated at various times to serve as governor's observer at meetings of the Interstate Oil Compact Commission. California is not a member of the compact.

LAWRENCE VANDER LECK

Consolidation of the two posts was the result of an economy drive to reduce the cost of maintaining the committee's operating staff.

Vander Leck is a geology graduate of the University of California, entered the oil business as a roustabout and rotary helper, and was later a geologist for Standard Oil Company. In 1917 and 1918, he was deputy supervisor of the California Division of Oil and Gas. In 1919 he joined the California Mining Bureau as a geologist, and was the author of "Bulletin 89—Petroleum Resources of California," published by the bureau. In 1920, he joined the Fullerton Oil Company, with which he is still connected as senior vice president and director. He has been a director of the company 12 years, a vice president 10 years, and will continue in both capacities. He is 49 years old.

The central committee named Maurice Machris, Bandini Petroleum Company, first vice chairman; Lloyd Williamson, California Star Oil Company, second vice chairman; and Bettye Bohanon, secretary.

Prior to selection of officers, five comittee members were selected by the main committee, which, in addition to 29 regularly elected members, increases the committee to 34 members. New members added are R. P. Huggins, Western Gulf Oil Company; John Southerland, The Ohio Oil Company; E. E. Pyles, Hancock Oil Company of California; Emil Kluth, Pacific Western Oil Company; and Richard Fenton, California Stripper Well Association.

Usual standing committees, including the allocation committee and administrative committee, are to be chosen at the next regular meeting of the central group, expected to be called shortly.

Gulf Publishing Company Elects Officers

At a meeting of the board of directors of The Gulf Publishing Company, held at the company's headquarters in Houston, following the annual stockholders meeting, the following officers were reelected: Ray L. Dudley, president; A. L. Burns, vice president and treasurer; S. W. Robinson, vice president and secretary; James F. Carter, Jr., vice president, and R. P. Swinsky, vice president, P. J. Aucoin, assistant treasurer.

Newly elected officers were Tom W. Nelson, vice president, and Warren L. Baker, assistant secretary.

San Antonio Geologists and Scouts to Picnic May 25

The annual picnic of San Antonio geologists and scouts will be held at Starcke Park, Seguin, Saturday afternoon, May 25, it was announced last week by Robert N. Kolm, secretary-treasurer of the South Texas Geological Society.

The outstanding event will be a ball game between geologists and scouts. Another contest is an 18-hole medal-play handicap golf tournament for the H. H. Weinert trophy. The winner is allowed to keep the trophy for one year. Gentry Kidd, 1132 Milam Building, San Antonio, is in charge of arrangements for the tournament.

Uneconomic Operations Resumed by Industry

In contrast with the comparatively moderate operations of the previous week, production of crude oil and runs to stills were increased sharply in the week ended May 11, the industry having resumed uneconomic output at wells and refineries.

The effect was not undesirable in so far as inventories of fuel oils were concerned, as those stocks have continued exceptionally small in relation to demand. But the output of gasoline was larger than desirable, in view of the surplus stocks of that product. Gasoline production was increased a little, and although seasonally good demand resulted in a withdrawal of 746,000 barrels from storage, the inventory remained 15,000,000 barrels above the corresponding level of last year and was excessive by approximately that amount.

As compared with 101,317,000 barrels of finished and unfinished gasoline in storage in the United States May 11, there was a supply of only 86,349,000 barrels on May 13 last year, and the latter quantity was more than then needed, as evidenced by weakness of prices. Gasoline demand is running around 4 or 5 percent higher this year than last year, despite smaller exports. But stocks equivalent to those held at this time last year very likely would have been quite adequate for taking care of current volumes of business.

It is indicated, therefore, that the industry still is turning out too much gasoline and that the yields of gasoline should be reduced while yields of heating oils should be increased, despite the evidence of a move in that direction in the latest weekly statistics.

Substantial additions were made to the stocks of both light and heavy fuel oils, and the additions were somewhat more than normal. But the inventories of the fuels remained lower than in 1939, whereas those products are being consumed this year in greater quantities.

Production and Runs

United States crude oil production increased by the large amount of 146,400 barrels daily in the week ended May 11, as Texas resumed normal production, following a one-day production holiday in the previous week, under the May proration order. Having averaged 3,825,450 barrels daily, the national output was 12.4 percent greater than in the corresponding week last year, when the average was 3,402,500 barrels daily.

Crude oil runs to stills were increased along with the production of crude, having averaged 3,620,000 barrels daily. That was 115,000 barrels a day more than the average daily runs in the previous week and 208,000 barrels daily, or 6 percent, more than in the week ended May 13 last year.

Stocks of crude oil were increased 1,540,000 barrels in the week ended May 4, the Bureau of Mines reported, as runs to stills in that week were comparatively small. Upon rising to 258,210,000 barrels, the crude stocks were within 20,000,000 barrels, or 7.3 percent, of the level a year earlier, when they totaled 278,607,000 barrels.

Gasoline Situation

Production of gasoline totaled 11,401,000 barrels in the week ended May 11, compared with 11,370,000 barrels in the preceding 7 days, having averaged about 4000 barrels a day higher.

Stocks of finished and unfinished gasoline, following the 746,000-barrel decline within the week, were still 17.3 percent greater than a year previously, the 101,317,000 barrels on hand May 11 having compared with 86,349,000 barrels in storage on the corresponding date last year.

Fuel Oils

Stocks of gas oil and distillate fuels, now being built up for the larger consumption of next fall, were increased 894,000 barrels in the week ended May 11, to a total of 26,552,000 barrels. That quantity was 1.4 percent less than the amount of 26,947,000 barrels held May 13 last year. In view of increased demand, however, the stocks of light fuel oils should be greater than a year ago.

The national inventory of residual fuel oil was increased 942,000 barrels in the week ended May 11, having risen to 103,985,000 barrels. That quantity was 5.4 percent less than the supply of 109,967,000 barrels on hand May 13, 1939, although demand has been running higher this year than last year.

Rendham Hearing Delayed

The Texas Railroad Commission has postponed indefinitely its hearing on operating rules for the Rendham pool, Baylor County, which had been set for May 16. The delay was ordered at the request of the operators.

Lubricant and Light Fuel Oil Prices Are Lowered

Former market trends were extended through the past week, prices of products having remained generally unchanged with exception of those for lubricants, which continued to decline.

In both the Mid-Continent and Western Pennsylvania refining regions, quotations were further marked down on bright stocks and neutral oils. Reductions within the week ranged from 1 to 2 cents a gallon at Oklahoma-Kansas refineries, and Pennsylvania refiners further lowered their quotations a cent a gallon in many instances.

Prices of lubricants have been consistently declining since the beginning of this year and have lost much of the ground that was gained in the sharp upturn of last fall.

The decline has resulted from decreases in demand from both domestic and foreign purchasers, although the markets have continued to absorb comparatively large quantities, lubricants having been the only product lately to move to foreign countries in greater volume than last year.

Gasoline Market

The gasoline market has continued generally steady, with prices mostly unchanged, although quotations are exceptionally low, following the declines since last fall.

The withdrawal of three-quarters of a million barrels of gasoline from storage in the week end ended May 11 was mildly encouraging, although the stocks still were over 101,000,000 barrels and around 15,000,000 barrels greater than necessary.

Although quotations were maintained

PRODUCT PRICES

REFINED GASOLINE	Range Last Week (Cents a gal.)		Changes from week Before	
Oklahoma Refineries:				
60 Octane and under	4	4¼	...	...
63-66 Octane	4¼	4¾	...	...
72-74 Octane	4¾	5¼	...	...
Mid-Western Tank Car:				
60 Octane and under	4	4¼	...	...
63-66 Octane	4⅜	4⅝	...	...
72-74 Octane	4¾	5¼	...	...
New York Harbor:				
70 Octane and under	6¼	6¼	...	—¼
72-74 Octane	6¼	7	...	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	1½	1½	...	...
F.O.B. Breckenridge, Texas	1¼	1¼	...	...
KEROSENE				
Oklahoma Refineries:				
41-43 water white	4	4¼	...	...
42-44 water white	4⅛	4⅜	...	...
Mid-Western Tank Car:				
41-43 water white	4	4¼	...	...
42-44 water white	4⅛	4⅝	...	...
New York Harbor	6	6	...	...
RANGE OIL				
At Oklahoma Refineries	3⅝	3⅞	...	...
In Mid-Western Market, Group 3 basis	3¾	3⅞	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3⅜	3¾	...	...
No. 3	3¼	3⅜	...	...
Mid-Western Tank Car:				
No. 1 straw	3½	3⅝	...	...
No. 3	3⅛	3⅜	...	...
New York Harbor:				
No. 1	6	6	...	...
No. 3	5¼	5½	—¼	...

HEAVY FUEL OILS (Per Barrel)	Range Last Week (Cents a gal.)		Changes from week Before	
Oklahoma Refineries:				
No. 6	.50	55	...	...
Mid-Western Tank Car:				
No. 5	.75	75	...	...
No. 6	.45	55	...	...
New York Harbor:				
No. 5	$1.70	$1.85	...	...
No. 6	1.50	1.50	...	...
BUNKER C FUEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$ .90	$ .95	...	...
New York Harbor	1.50	1.50	...	...
DIESEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$1.70	$1.70	...	...
New York Harbor	2.20	2.20	...	...
Los Angeles Basin, 27 gravity	1.10	1.40	+.95	...
LUBRICATING OIL				
Oklahoma Refineries:				
Bright stock, 150-160 viscosity at 210°, 10-25 pour test	18½	20½	...	—2
Neutral oil, pale, No. 3 color, 150 viscosity at 100°, 0-10 pour test	10½	11¾	...	—1
Western Pennsylvania:				
Bright stock, 145-155 viscosity, at 210°, 25 pour test	19	20	—1	—1
Neutral Oil, No. 3 color, 150 viscosity, at 70°, 25 pour test	20	20	...	—1

Trends of United States Production and Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1937:						
August 28	[5]3,731,450	3,425,000	309,506,000	66,997,000	112,111,000	
September 25	3,666,300	[5]3,455,000	307,974,000	65,620,000	116,472,000	
1938:						
March 19	3,433,550	3,080,000	306,380,000	[5]93,192,000	122,067,000	
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[6]269,509,000	68,687,000	32,068,000	118,711,000
December 31	3,201,450	3,115,000	273,024,000	71,695,000	29,082,000	115,741,000
1939:						
January 28	3,248,250	3,235,000	271,763,000	77,279,000	26,583,000	112,766,000
February 25	3,328,850	3,185,000	271,758,000	84,597,000	23,419,000	110,252,000
March 25	3,382,350	3,225,000	273,915,000	87,561,000	21,487,000	107,551,000
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
May 27	3,585,250	3,405,000	278,289,000	84,152,000	26,992,000	109,386,000
June 24	3,452,800	3,430,000	272,297,000	81,733,000	30,239,000	111,726,000
July 29	3,539,100	3,460,000	268,513,000	77,887,000	34,900,000	114,053,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[1]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
September 30	3,658,200	3,560,000	233,023,000	71,168,000	38,081,000	115,466,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[1]3,650,000	[3]229,127,000	72,122,000	39,358,000	115,060,000
October 28	3,498,500	3,520,000	230,453,000	72,660,000	39,562,000	114,786,000
November 25	3,818,100	3,510,000	231,811,000	75,595,000	38,527,000	112,106,000
December 30	3,545,000	3,445,000	237,742,000	80,985,000	34,184,000	106,680,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 6	3,745,000	3,455,000	251,897,000	101,945,000	23,551,000	103,299,000
April 13	3,853,800	3,570,000	252,269,000	101,837,000	24,237,000	102,595,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 4	3,679,050	3,505,000	258,210,000	102,063,000	25,658,000	103,043,000
May 11, 1940	3,825,450	3,620,000	.....	101,317,000	26,552,000	103,985,000
May 13, 1939	3,402,500	[8]3,412,000	[4]278,607,000	86,349,000	26,947,000	109,967,000
Change in past year	+12.4%	+6.0%	—7.3%	+17.3%	—1.4%	—5.4%

[1] All time peak. [2] Peak for 1939. [3] Lowest since April, 1922. [4] Stocks, May 6, 1939. [5] Peak prior to 1939. [6] Lowest for year. [7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California. [8] May, 1939, daily average. [9] Lowest since October, 1922, due to the shutdown of six Mid-Continent States.

generally at former levels in most districts, some suppliers along the Atlantic seaboard last week lowered their prices of low-octane gasoline ⅛ to ¼ cent a gallon.

The kerosene market, especially firm in recent weeks, has remained a feature of the market, although prices last week were about the same as previously. Demand for that product is seasonally good, through benefit of agricultural activity. In addition to the buying of consumers, purchases are being made in important quantities by refiners that need extra supplies to supplement their own production, in fulfilling contract obligations.

The markets for both light and heavy fuel oils have continued generally steady, although quotations were lowered slightly last week by some suppliers on the Atlantic coast. Most generally affected were light fuels, which were marked down a little in New England and the Middle Atlantic states, the reductions applying to all methods of delivery.

California Crude Cut Met; War May Expand Exports

Developments in the crude oil market the past week were featured by the general adoption of Standard Oil Company's lower schedule of prices in California and some indication that exports to Europe might pick up, in consequence of the recent war developments.

Effective May 18, practically all other California crude purchasers met the reduced prices ordered February 1 by

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in May	State Allowable in May	BARRELS DAILY FOR WEEK ENDED	
			May 18	May 11
TEXAS—				
Texas Panhandle	.....	.....	71,800	76,900
North Texas	.....	.....	110,900	107,500
West Central Texas	.....	.....	33,900	33,500
West Texas	.....	.....	263,100	263,200
East Central Texas	.....	.....	89,200	87,200
East Texas Field	.....	.....	396,600	396,700
South Texas	.....	.....	247,500	248,500
Texas Gulf Coast	.....	.....	249,300	246,700
Total Texas	1,344,200	1,420,500*	1,462,300	1,460,200
CALIFORNIA—				
Long Beach	.....	.....	45,100	46,300
Midway-Sunset	.....	.....	54,400	59,200
Kettleman Hills	.....	.....	48,900	43,600
Wilmington	.....	.....	84,100	84,800
Others	.....	.....	382,900	393,900
Total California	592,600	592,000†	615,400	627,800
OKLAHOMA—				
Oklahoma City	.....	.....	95,700	93,000
Seminole Area	.....	.....	100,350	97,750
Others	.....	.....	217,925	219,175
Total Oklahoma	408,100	408,100	413,975	409,925
ILLINOIS—				
Salem	.....	.....	253,500	249,700
Louden	.....	.....	73,100	68,850
Other New Pools	.....	.....	99,000	100,850
Old Pools	.....	.....	8,500	9,100
Total Illinois	392,900	.....	434,100	428,500

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in May	State Allowable in May	BARRELS DAILY FOR WEEK ENDED	
			May 18	May 11
LOUISIANA—				
North Louisiana	.....	.....	69,900	69,500
South Louisiana	.....	.....	230,200	228,500
Total Louisiana	264,500	293,080	300,100	298,000
KANSAS	158,100	158,100	165,200	149,350
NEW MEXICO	103,900	107,000	107,000	106,900
EASTERN STATES—				
Pennsylvania Grade	52,100	.....	79,500	80,500
Others, Eastern	49,200	.....	19,500	20,000
Total Eastern States	101,300	.....	99,000	100,500
MOUNTAIN STATES—				
Wyoming	72,900	.....	69,600	68,200
Montana	17,400	.....	17,500	17,500
Colorado	3,500	.....	3,500	3,800
Total Mountain States	93,800	.....	90,600	89,500
MICHIGAN	63,200	58,000	62,100	60,600
ARKANSAS	64,500	70,000	70,200	70,200
INDIANA	8,100	.....	11,200	9,700
MISSISSIPPI	5,800	.....	8,225	7,500
‡Total 8 Prorated States	2,999,100	3,106,780	3,196,275	3,182,975
Total United States	3,601,000	.....	3,839,400	3,818,675

* Net daily average, considering general shutdown May 1, and 14 shutdown days in East Texas Field.
† Recommendation of Central Committe of California Oil Producers.
‡ Texas, California, Oklahoma, Louisiana, Kansas, Arkansas, Michigan, New Mexico.

Standard Oil Company of California. The move established 27-gravity Signal Hill crude, typical oil, at $1.03 a barrel, 7 cents lower than the price previously paid.

In making its reduction February 1, Standard explained that the cut was necessary because of the lower prices to which fuel oils had been depressed. But other purchasers declined at that time to follow Standard's lead.

The sudden change in the European situation apparently has been reflected already in the demand for crude on the part of purchasers that have had sizeable export business.

Atlantic Refining Company, advantageously situated for exporting oils to Europe, with refining facilities on the Atlantic coast, just across the ocean from the war zone, was reported last week to have completed arrangements for relieving Humble Oil & Refining Company of 6000 barrels daily of controlled crude production in the East Texas field for 90 days, and for similarly taking over for 90 days 2500 barrels daily of Shell Oil Company's production in that field. The necessary field gathering system of Humble Pipe Line Company for delivering the oil to Atlantic has been turned over to Atlantic Pipe Line Company, and a similar pipe line arrangement has been provided in connection with the oil to be obtained from Shell.

It is understod that Atlantic has been short of normal crude requirements and consequently had definite demand for the extra supplies of good oil secured under the above arrangements.

Rumors still persist that the Allies will move a large number of tankers to the Gulf Coast and take on most of the surplus gasoline stocks, although skeptics say that the wish may be father to the thought.

Loss of Ships Reduces Market for Fuel Oil

Quite a slice has been cut out of world demand for oil for fueling ships as a result of naval casualties since the beginning of the World War, but not nearly as large a slice as was cut out in the corresponding period of the last World War.

A compilation by the New York Times shows that 494 merchant ships of an aggregate tonnage of 1,715,617 were sunk during the interim of between September 3, 1939, and May 7. Of this amount, 433 ships with a combined tonnage of 1,402,455 belonged to allied and neutral nations, while 61 merchants ships with a combined total tonnage of 313,162 belonged to Germany.

During the first eight months of unrestricted submarine warfare during the first World War in 1917, allied and neutral shipping sunk amounted to 4,720,200 tons, or an average of 19,505 tons per day, which may be compared with a daily average loss of 5771 tons for the allies and neutrals in the present war.

Crude Oil Production Again Above Needs

The nation's production of crude oil continued materially in excess of current market requirements during the past week, ended May 18, having averaged 3,839,400 barrels daily.

That was 20,725 barrels a day more than the output in the previous week and 238,400 barrels more than the indicated average daily demand for domestic crude in May, as estimated by the Bureau of Mines.

The increase of production last week reflected gains in Texas, Oklahoma, Illinois, Louisiana, Kansas, New Mexico and a few other areas. The only important decline, partially offsetting the the mentioned gains, was that of about 12,000 barrels in California.

Texas was up only 2100 barrels in averaging 1,462,300 barrels daily. The state exceeded its allowable about 42,000 barrels but was 118,000 barrels above indicated daily market demand.

Oklahoma closely adhered to the state allowable, which conforms exactly with the Bureau of Mines estimate of demand, the output during the week having averaged 413,975 barrels daily, compared with the 408,100-barrel allowable.

Illinois rose over 5000 barrels to 434,100 barrels daily, and was 41,200 barrels above indicated demand, although the state imposes no proration restrictions.

Louisiana output increased 2100 barrels to 300,100 daily, and although only

CALIFORNIA CRUDE OIL PRICES

Posted effective February 1, 1940. All gravities above those quoted take highest price offered in that field.

Gravity	Wilmington	Signal Hill (Long Beach), El Segundo	Seal Beach	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea, Canon	Athens-Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier, East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Newhall, McKittrick, Kern River, Round Mt., Kern Front	Greeley, Canal	Coles Levee, Richfield Western	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills
14-14.9	$0.60	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61	....	....	$0.65	$0.61	$0.61	$0.62	$0.63	....	$0.60	....	....	....	$0.60	$0.60	$0.60	....	....
15-15.9	.60	.65	.64	.63	.64	.65	.61	....	....	.65	.61	.61	.62	.63	....	.60	....	....	....	.60	.60	.60	....	....
16-16.9	.60	.65	.64	.63	.64	.65	.61	....	....	.65	.61	.61	.62	.63	....	.60	....	....	....	.60	.60	.60	....	....
17-17.9	.62	.65	.64	.63	.68	.65	.61	....	....	.65	.61	.61	.62	.63	....	.60	....	....	....	.60	.60	.60	....	....
18-18.9	.64	.65	.64	.63	.71	.65	.65	....	....	.68	.61	.61	.62	.63	....	.60	....	....	....	.60	.60	.60	....	....
19-19.9	.69	.69	.64	.67	.75	.70	.69	....	....	.72	.61	.65	.62	.63	....	.60	....	....	$0.60	.64	.64	.61	$0.60	....
20-20.9	.73	.73	.64	.72	.79	.76	.74	....	....	.75	.65	.69	.62	.67	....	....	....	....	.60	.69	.69	.62	.60	....
21-21.9	.78	.78	.64	.76	.82	.81	.78	....	....	.79	.69	.73	.62	.72	$0.63	....	....	....	.64	.74	.74	.66	.60	....
22-22.9	.82	.82	.69	.81	.86	.86	.82	....	....	.82	.73	.77	.66	.76	.63	....	....	....	.68	.79	.78	.70	.63	....
23-23.9	.86	.86	.75	.85	.89	.92	.86	$0.71	....	.86	.78	.82	.71	.81	.67	....	....	....	.71	.84	.82	.74	.67	....
24-24.9	.90	.90	.80	.90	.93	.97	.90	.77	....	.89	.82	.86	.75	.85	.72	....	....	....	.75	.89	.86	.78	.71	....
25-25.9	.95	.95	.86	.94	.96	1.02	.95	.82	....	.93	.86	.90	.80	.89	.77	....	....	....	.79	.94	.90	.82	.75	....
26-26.9	.99	.99	.91	.99	1.00	1.08	.99	.86	....	.96	.90	.94	.84	.94	.82	....	....	....	.83	.99	.95	....	....	....
27-27.9	1.03	1.03	.97	1.03	1.04	F.O.B.	1.03	.94	....	1.00	.94	.98	.89	.98	.87	....	$0.83	$0.92	.87	1.04	.99	....	....	....
28-28.9	1.07	1.07	1.02	1.07	1.07	Pipe Line	1.07	.99	....	1.03	.98	....	.93	1.02	.91	....	.86	.96	.91	1.09	1.03	....	....	....
29-29.9	1.10	1.10	1.07	1.11	1.10	....	1.10	1.04	....	1.06	1.02	....	.98	1.06	.96	....	.90	.99	.95	1.14	1.07	....	....	....
30-30.9	1.14	1.14	1.12	1.15	1.14	....	1.14	1.09	F.O.B.	1.09	....	....	1.02	1.10	1.01	....	.94	1.02	.99	1.19	1.11	....	....	....
31-31.9	....	....	....	....	1.17	....	1.17	1.14	Ship	....	....	....	1.07	1.14	1.05	....	.98	1.06	1.02	1.24	....	....	....	....
32-32.9	....	....	....	....	1.20	....	1.20	1.19	....	....	....	....	1.11	1.18	1.09	....	1.02	1.09	1.06	1.29	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.24	$1.21	....	....	....	1.15	1.22	1.14	....	1.06	1.13	1.10	1.34	....	....	....	$1.12
34-34.9	....	....	....	....	....	....	....	1.29	1.25	....	....	....	1.20	1.26	1.19	....	1.10	1.16	1.14	....	....	....	....	1.17
35-35.9	....	....	....	....	....	....	....	1.34	1.29	....	....	....	1.24	....	1.23	....	1.14	1.20	....	....	....	....	....	1.21
36-36.9	....	....	....	....	....	....	....	1.39	1.33	....	....	....	1.28	....	1.27	....	1.18	1.23	....	....	....	....	....	1.25
37-37.9	....	....	....	....	....	....	....	1.44	1.37	....	....	....	1.33	....	1.31	....	1.22	1.26	....	....	....	....	....	1.29
38-38.9	....	....	....	....	....	....	....	1.49	....	....	....	....	1.37	....	1.36	....	1.25	1.30	....	....	....	....	....	1.33
39-39.9	....	....	....	....	....	....	....	1.54	....	....	....	....	1.42	....	....	....	1.29	1.34	....	....	....	....	....	1.38
40-40.9	....	....	....	....	....	....	....	1.59	....	....	....	....	1.46	....	....	....	1.33	1.37	....	....	....	....	....	....
41-41.9	....	....	....	....	....	....	....	....	....	....	....	....	1.50	....	....	....	1.37	1.40	....	....	....	....	....	....
42-42.9	....	....	....	....	....	....	....	....	....	....	....	....	1.54	....	....	....	1.41	1.44	....	....	....	....	....	....
43-43.9	....	....	....	....	....	....	....	....	....	....	....	....	1.59	....	....	....	1.45	1.47	....	....	....	....	....	....
44-44.9	....	....	....	....	....	....	....	....	....	....	....	....	1.63	....	....	....	1.49	1.51	....	....	....	....	....	....
45-45.9	....	....	....	....	....	....	....	....	....	....	....	....	1.67	....	....	....	1.53	1.54	....	....	....	....	....	....
46-46.9	....	....	....	....	....	....	....	....	....	....	....	....	1.71	....	....	....	1.57	1.57	....	....	....	....	....	....
47-47.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.61	....	....	....	....	....	....	....
48-48.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.64	....	....	....	....	....	....	....

7000 barrels above the state allowable, exceeded indicated demand 35,600 barrels daily.

Kansas production was up 15,850 barrels to 165,200 daily but was not far above the state allowable of 158,100 barrels a day, which conforms with estimated demand.

California operators curtailed production from 627,800 to 615,400 barrels daily, but still turned out 23,400 barrels a day more than the state allowable under the voluntary proration plan, which is based directly on market demand.

Runs to Stills and Crude Oil Stocks Up in March

Continuing the upward trend of previous months, runs to stills in March reached a daily average of 3,551,000 barrels, 42,000 barrels over the February figure and 360,000 barrels above the March, 1939, average, it is shown by the monthly report of the United States Bureau of Mines.

Imports of foreign crude also increased by 12,000 barrels, to a daily average of 93,000 barrels, it was stated.

Total receipts of crude oil at refineries in March were 110,837,000 barrels, of which 107,942,000 barrels was domestic and 2,895,000 barrels foreign. Total runs to stills were 110,079,000 barrels, and fuel and losses 109,000 barrels, resulting in an increase to crude stocks from 49,545,000 to 50,194,000 barrels, the bureau reported.

Atlantic Refining Launches New 19,405-Ton Tanker

The Atlantic Refining Company last week launched a 19,405-ton tanker, the S.S. Robert C. Tuttle, at the yards of the Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania. The vessel was christened by Mrs. Robert C. Tuttle, wife of the vice president of the company for whom the latest addition to the company's fleet is named.

The S.S. Robert C. Tuttle is a turbo-electric tanker of all-welded construction, and is similar in design to her three sister ships of the Atlantic fleet, S.S. J. W. Van Dyke, S.S. Robert H. Colley, and S.S. E. J. Henry, all commissioned within the past three years. It is the eighteenth electrically propelled ship designed by Atlantic Refining Company engineers, and her addition gives the company more electrically propelled vessels than any other company in the world.

Overal length of the S.S. Robert C. Tuttle is 544 feet. Capacity is the equivalent of 156,000 barrels, or 6,552,000 gallons. The turbo-electric engines are designed to develop 5000 horsepower and provide a sea speed of 13.25 knots. The steam generating system is of the high-pressure, high-temperature type, operating at 625 pounds pressure and at a steam temperature of 920 degrees, Fahrenheit. It will be placed in service in July on the run between Philadelphia and Texas Gulf ports.

Contract Awarded for 10 Miles in East Texas

Wood Engineering & Construction Company, Arp, Texas, has been awarded contract to construct 10 miles of gathering and return lines for the recycling plant of Hunt Oil Company at Palestine, Texas. Work will start as soon as pipe arrives.

House Committee Completes Tanker Situation Hearings

Investigation of recent increases in tanker rates from the Gulf to the Eastern seaboard was completed last week by a House Merchant Marine and Fisheries Committee with the appearance of representatives of the larger independent tanker lines who testified at an executive session of the group.

Following the hearing, Chairman Edward Hart, of New Jersey, said it was probably the subcommittee would be prepared to submit its report and recommendations to the full committee within a week or 10 days.

Although Representative Hart declined to discuss the nature of the testimony given by the tanker representatives, he intimated that it was largely along the same line as that submitted earlier by representatives of Standard Oil Company of New Jersey and other oil companies operating their own vessels.

Intensification of the European war has sharply increased the shortage of tanker tonnage available for the coastwise trade, and there is little chance seen for reductions in rates in the near future, the subcommittee was informed. An increase in tanker tonnage, rather than direct action against the companies now operating in the trade, was considered as a possible avenue of remedy for the allegedly excessive rates now being charged, it was said.

Contracts Awarded for 10 Tankers by Sinclair

Sinclair Refining Company last week let contracts aggregating $25,000,000 for 10 new high-speed tankers. Bethlehem Steel Company's Shipbuilding Division will build four 10,000-ton and two 15,000-ton tankers, while Federal Shipbuilding and Drydock Company will build four 15,000-ton vessels.

Coastwise requirements and facilities for transporting Venezuelan, Mexican and other foreign oils resulted in expansion of the company's tanker fleet, said H. F. Sinclair, president of Consolidated Oil Corporation, parent concern.

Ask Change in Allocation Method for Emperor Field

Duquesne, Hoffman & Page requested an allowable of 20 barrels per well per day for the Emperor field, Winkler County, at a hearing before the Texas Railroad Commission last week. The company has six wells in the field, and is now allocated about 12⅓ barrels a well.

C. W. Hoffman, member of the firm, said this would mean a 12- to 14-year pay-out. He asked that the commission discard its potential factor and substitute per-well therefor, recommending that the field be prorated on acreage and per well, with 50 percent allocated on each factor.

Emperor Oil Company, owner of 30 percent of the production in the field, endorsed the plan to include acreage. Ed Hudson, representing the company, suggested inclusion of a bottom-hole pressure factor for the per well allowance, a plan which met with approval of Phillips Petroleum Company. However, Skelly Oil Company, owner of 60 percent of the field's production, objected to a change in the method of allocation, preferring to retain the potential factor.

R. Van A. Mills, petroleum engineer for Continental Oil Company, told the commission that the unit plan now in effect resulted in discrimination as the wells were not properly spaced in all instances. In some cases, wells are located on a 10-acre pattern, while nearby, others are located on a 20-acre pattern.

A hearing on the Deep Emperor pool, which was not included in the notice last week, has been set by the commission for May 27.

Station to Boost Outlet of West Texas Crude Line

Atlantic Pipe Line Company has authorized installation of a booster station midway along its 8-inch trunk line from Hobbs, New Mexico, to its West Texas tank farm and terminal at Midland in order to boost capacity from 21,000 to 26,000 barrels daily. A 10-acre station site has been purchased in NW NW PSL Section 17, Block A-46, Andrews County, Texas, where Magnolia Pipe Line Company's recently completed 8-inch outlet for the Seminole field ties into the Hobbs-Midland unit. The station will be equipped with a single Diesel engine and centrifugal pumping unit, and is to be in service before July 1.

Ask 45-Barrel Allowable For Seymour Field

An allowable of 45 barrels daily for each of the 17 wells in the Seymour field, Baylor County, was requested at a recent Texas Railroad Commission hearing. The wells are now allowed 27 barrels per day. British American Oil Producing Company, which made the request, said that production is from the Canyon Lime found at 2650 feet.

Texas Hearings

A hearing has been scheduled by the Texas Railroad Commission for May 27, at Austin, to consider special operating rules for the area surrounding Richard Petroleum Company's Rudolph Studer 1, near Robstown in Nueces County. The operators will present an application to produce gas through the annular space between the tubing and the casing, and oil through the tubing.

Special operating rules for the Ricaby field, Starr County, will be considered at a hearing set by the commission for May 24. The application of Texas Gulf Producing Company for a higher allowable on its Smith-Gardner 1 in the Alice field, Jim Wells County, will be heard the same day.

Also on May 24, the commission will hear the application of Edwin M. Jones for a higher allowable for the Greta field, Refugio County.

At a hearing set for May 22, operators in the East White Point field, San Patricio County, will present evidence on a proposed amendment to the spacing rule and to revise the method of allocation for that field.

Sinclair Prairie Oil Company will present an application for a higher allowable on its L. E. Johnson 1 in the Leck field, Winkler County, at a hearing set for May 27.

A higher allowable for the Arriola field, Hardin County, will be discussed at a hearing May 24.

WORLD-WIDE DEVELOPMENTS

By WM. V. GROSS, Associate Editor

Colombia

Barco Concession Leads Colombian Drilling

The Barco concession, operated by Colombian Petroleum Company, continues the most active drilling area in Colombia with nine rigs running on La Petrolea structure, two on Rio de Oro, one in Carbonera field and one at Tres Bocas.

Production from the concession, which was provided a market outlet late in 1939 through completion of the Barco pipe line, totaled 1,369,275 barrels during the first three months of 1940, considerably below the generally anticipated output.

At the end of the first quarter of 1940 the cumulative completion record of the concession was as follows: La Petrolea, 84 wells; Rio de Oro, 11, and Carbonera, 1.

Tropical Oil Company's De Mares concession, oldest producing property in Colombia, recovered 5,279,131 barrels from Infantas and La Cira structures during the first quarter of the year. Cumulative completions in the two fields at that time totaled 1078, with the number on production varying from 754 to 850 during the quarter. De Mares concession drilling, most of which was confined to La Cira structure, totaled 65,159 feet during the first three months and resulted in 20 completions.

Exploratory drilling continued at about the same pace as it did in the first quarter of 1939 in Colombia, with results generally disappointing.

The opening of the second quarter found Colombian Petroleum Company ready to begin drilling operations on the Socuavo structure and drilling below 1573 feet on the Tres Bocas wildcat, both on the Barco. Compania de Petroleo Shell de Colombia was preparing to spud No. 2 on the Monte Oscuro anticline. Sociedad Nacional del Carare's Monte Oscuro 1, wildcat on the same large anticline and located 15,727 meters south and 24,077 meters west of the northeast corner of the company's concession, continued coring and drilling below 4003 feet.

Socony-Vacuum Oil Company of Colombia's Narino 3, wildcat on the Restrepo concession, gained the title of the deepest test in Colombia by the end of March, having attained a depth of 10,100 feet, while the company's Peralonso 1 on a structure of that name in the north central part of the Restrepo concession, was standing suspended at 9274 feet.

Wildcat completions recorded in Colombia during the first quarter of 1940 embraced the following: Shell de Colombia's Monte Oscuro 1, Mora concession, abandoned at 8457 feet; Compania Colombiana de Petroleo El Condor's Baul 1, abandoned at 6918 feet, and Sociedad Nacional del Carare's San Fernando 2, abandoned at 9272 feet.

Colombia has only two major pipe line companies: South American Gulf Oil Company, which carries oil from the Barco concession to tidewater at Covenas, and Andian National Corporation, which runs oil from the De Mares concession to Mamonal, just below Cartagena. The former's runs during the first quarter of 1940 totaled 1,030,511 barrels; the latter's, 4,606,960 barrels.

Argentina

Imports of Fuel Oil Unrestricted to September

Imports of fuel oil into Argentina has been freed from all restrictions, until September 30, 1940. In general, imports into Argentina are dependent on a special import license.

Ultramar Sociedad Anonima Petrolera Argentina is the first Argentine petroleum company which follows a suggestion from the State Oil Concern (Yacimientos Petroliferos Fiscales) by cooperating with the same in research work and drillings, with a view of exploitation in common. Research will start in the Territory of Santa Cruz, in southern Argentina. Ultramar formerly operated in the field of refining only, as a subsidiary of Texas Oil Co.

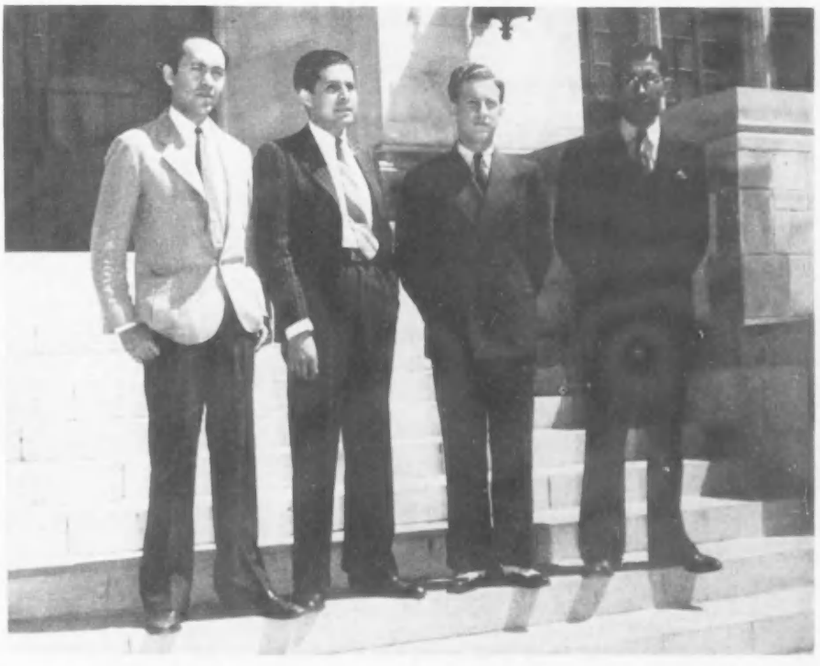
Mendoza Field Described As Important Oil Reserve

Mervyn F. Ryan, general manager of Buenos Aires and Pacific Railway, confirmed in a recent interview the excellent prospects of the Mendoza oil fields. After the first Tupungato well had caught fire, production made rapid progress at different points of the province and present production is 600 tons but could easily reach 1000 tons were it not for the lack of transportation facilities. Oil is now carried the first 60 kilometers to a refinery at Godoy Cruz on trucks which will shortly be replaced by a pipe line. Then, the trucks will be used for feeding the refinery at Lujan de Cujo, now under construction. The Pacific Railway has converted 115 flat cars into tanks and will convert an additional 100 as Yacimientos Petroliferos Fiscales expects to raise Mendoza production. Ryan believes that, eventually, Mendoza might yield the 2 million tons annually necessary to replace imports.

Hungary

Lispe, Hungarian Field Is Desirable War Plum

Growth in production of Lispe field in southwestern Hungary, near the Yugoslav frontier, lessens the chances of that country's keeping out of war. Hungary and Rumania are the only



Colombian delegates to the International Petroleum Exposition included four engineering students at the University of Oklahoma. From left to right are Pablo Mendoza, Guiliermo Navarrete, Hernando Madero and Gilberto Delgado.

THE LITTLE LADY is right if her father is one of the many successful oil operators who bank in Fort Worth. In many instances the resources of Fort Worth Banks have contributed to their success. The loan officers of these banks will be glad to discuss your credit requirements.

THE FIRST NATIONAL BANK
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European nations with ample oil for domestic requirements.

Some circles saw in the visit May 6 of Hungarian Premier Count Pal Teleki and Foreign Minister Count Istvan Csaky to Lispe possibility that the Hungarian government is considering providing for Lispe areas' defense against invasion and confiscation.

Standard Oil Company of New Jersey, through an affiliate, is heavily interested in Lispe production.

Slovakia

Deutsche Erdoel Operating Gbely Field in Slovakia

Deutsche Erdoel, A. G., substantial German oil company, has leased the Gbely oil field of Slovakia from the state for 10 years, an accomplishment which makes available to Nazi forces an additional limited quantity of crude of fair lube-stock content.

Gbely field, said to contain 361 proven hectares, or nearly 900 acres, has produced from 5300 to 17,700 tons of crude annually, depending upon the intensity of exploitation. After the partitioning of Czechoslovakia, Gbely was found to be 15 miles in the Slovak territory from the boundary separating it from the protectorate established by Germany. Prior to the invasion, Czech banks had been financing the company operating Gbely, and after the annexation of Bohemia and Moravia by the Reich, German banks managed to secure a financial interest in that company. This probably facilitated the subsequent deal with Deutsche Erdoel, A. G.

Italy

Italian Shipyard Launches Diesel Tanker, Poza Rica

A shipyard in Genoa, Italy, recently announced launching of the first of three 10,000-ton tankers for Mexico, according to an announcement by Petroleos Mexicanos early in May.

The new tanker, christened Poza Rica, will be used in coastwise and foreign trade. Capacity is 75,000 barrels; draft, 25 feet; speed, 12 miles per hour. The Poza Rica is powered with Diesel engines.

Current plans call for arrival of the tanker in Vera Cruz early in July.

Large Producer Completed In Poza Rica, Mexico

Petroleos Mexicanos announced early in May completion of No. 42 in Poza Rica field, Mexico, for 8000 barrels at 8040 feet.

Mexican petroleum engineers put a reserve figure of 4,000,000,000 barrels on Poza Rica, largest field in that country. Several wells are drilling in the field.

Albania Production

News dispatches recently declared 400 wells in Albania with an eggregate depth of 933,334 feet are producing annually 300,000 tons of poor quality, asphalt base, high sulphur content oil, practically all of which goes to new refineries at Bari and Livorno.

U. S. FIELD OPERATIONS

Kansas

Oil Pools Added in Marion And McPherson Counties

Aladdin Petroleum Company opened a new Mississippi Chat pool in McPherson County when Bitikofer 1, CNL NE NW 1-20-1w, 5 miles east of Ritz-Canton pool and near the old abandoned Wenger pool, flowed 4 barrels of oil hourly with over 5,000,000 cubic feet of gas. Mississippi Chat, topped at 2885 feet and deepened to 2916 feet, will be acidized before completion.

Harrington & Loriaux opened a pool in Marion County when Belton 1, SEc NE 30-17-4e, west of Lost Springs pool, filled 2400 feet with oil in 4 hours. Six-inch casing was set at 2404 feet and hole bottomed at 2415 feet. Mississippi was topped at 2398 feet and pay cored at 2412-15 feet. H. H. Royer's Kroch 1, NEc NW 28-18-4e, south of Lost Springs pool, was dry at 2464 feet in Mississippi lime.

Pryor & Lockhart et al's Stratman 1, CW½ NW NW 1-17-10w, 1 mile northwest of Stratman pool, Ellsworth County, filled 2450 feet with oil after penetrating saturated Arbuckle at 3278-3283 feet. The strike is southeast of the recently discovered Ehler pool.

W. M. McKnab's Snyder 1, CW½ NW NW 15-34-3e, northeast of Baird pool, Cowley County, had a Bartlesville sand strike after drilling into the sand to 3280 feet. In 3 hours the hole filled 2000 feet with oil. Ryan Consolidated Petroleum Corporation brought in a wildcat at Couch 1, SW NE SE 13-30-5e, 3½ miles south of Fox-Bush pool in Cowley County. From Bartlesville sand at 2785-2800 feet, the test was flowing 7 barrels hourly. Earl Wakefield and The Carter Oil Company's Dunn 1-A, CW½ SE NW 3-35-5e, southwest of Rahn pool and between two dry holes, was drilling below 3500 feet. Lansing lime was topped at 1730 feet. Markey and Mission Oil Corporation's Hunt 1-A, SWc NE 16-34-5e, wildcat, killed 3,800,000 cubic feet of gas at 1756 feet in Douglas sand and was drilling ahead. Foster Oil Company's Howard 2-A, CE½ SW SW 8-34-4e, landed 10-inch pipe at 1719 feet and was drilling at 2000 feet. Barwick & Sheridan et al's Warren 1, CW½ NW NW 18-35-6e, was making hole below 1850 feet.

Lario Oil & Gas Company extended production in the Walters pool, Ellis County, ½ mile north at Walter "D" 1, CNL NW NE 2-12-18w. In 12 hours, hole filled 475 feet with oil. Arbuckle lime was drilled to 3550 feet.

J. N. Kaufman et al's Hayes 1, CNL NE NE 25-21-7w, southeast of Wherry pool, Rice County, was abandoned at 3501 feet in the Chat, topped at 3492 feet. Only a thin section of conglomerate was encountered at 3490 feet.

Alden, Branine & Newton's Warner 1, SE SW NW 15-20-10w, was completed for 2061 barrels daily after acid to extend Raymond pool, Rice County, ¼ mile northward. Ohio Oil Company completed its extension test in the Albert-Otis gas pool, Barton County, for 18,900,000 cubic feet daily. Brack 1, CNL NW 21-18-15w, is ⅞ mile from production. Stanolind Oil & Gas Company's Max 1, CWL NE NW 1-22-12w, 1 mile south of Max pool, Stafford County, made 499 barrels of oil daily. Arbuckle lime was penetrated to 3563 feet.

Derby Oil Company located State "A" 1, NW NE SE 36-19-12w, ⅛ mile northeast of the discovery in the Wolf pool, Barton County. Derby Oil Company et al abandoned Monroe 1, CWL NW SE 26-18-9w, 1¼ miles northeast of Ploog pool, Rice County, at 3330 feet in dry Arbuckle lime.

Laton pool, Rooks County, was extended as Kruger et al's Tatkenhorst 4, Section 10-9-16w, pumped 350 barrels of oil in 24 hours. Lansing-Kansas City lime at 3206 feet was acidized.

Wildcat Activity

Four new wildcats were started in McPherson County. John Barwick and Broadwater Drilling Company's Heaton 1, CEL SE SE 28-17-1w, 3½ miles southeast of Roxbury pool, was moving in materials. Westgate-Greenland Oil Company et al's Union 1, CEL SW NE 18-17-1w, was drilling below surface pipe. Joe Morine & F. S. Williams were rigging up tools at Nordling "A" 1, NE SE SW 19-18-2w, north of Anderson-Nordling area. Bay Petroleum Corporation et al's Coons 1, CWL SW SW 13-19-1w, 3½ miles northwest of the wildcat strike by Aladdin Petroleum Company, was digging cellar and pits.

Cities Service Oil Company was drilling with rotary at Rochter 1, SEc NE 11-13-15w, 3½ miles northeast of Atherton pool, Russell County. Haynes et al's Driscoll 1, CNL SE SW 30-15-11w, wildcat north of Prusa pool, Russell County, was spudded. John E. Mabee Oil & Gas Company had rotary rig at Kozizek 1, CNL NE SE 18-16-10w, ½ mile west of Stoltenberg pool, Ellsworth County. Aylward Producing Company et al's Haska 1, CEL SE SE 6-16-10w, set 10-inch surface pipe at 225 feet and was waiting on cement. Atlantic Refining Company had derrick at Stoltenberg "A" 1, CNL NE SE 27-16-10w, ¼ mile east of production.

George F. Johnston had materials at Oeser 1, CEL NE SW 30-16-11w, ½ mile west of Krier pool, Barton County, which now produces from three zones, Kansas City, Arbuckle lime and basal sand.

Ward McGinnis located Nybert 1, SWc NW 29-17-4e, ¾ mile west of Lost Springs pool, Marion County, and east of the Belton strike in Section 30-17-4e, which filled with oil from the Mississippi Chat.

Champlin Refining Company spudded Snider 1, CNL NW NW 3-21-11w, ½ mile northwest of Snider pool, Stafford County. Whittaker et al had rig up at Adams 1, NEc 17-28-11w, south of the Severy oil and gas pool of Greenwood County. Olson Drilling Company et al's Nuckolls 1, C NE NE 30-31-11w, ½ mile northwest of Whelan pool, Barber County, was moving in materials.

C. L. Carlock staked Conrad 1, CW½ SW NE 15-20-6w, wildcat in Rice County. In Russell County, Gussman et al's Mudd 1, CWL NW NE 16-15-15w, was rigging up. In Dickinson County, Midland Oil Company et al's Haines 1, SE SW SW 23-16-4e, was shut down at 1235 feet.

Kansas Proven and Wildcat Drilling Still Increasing

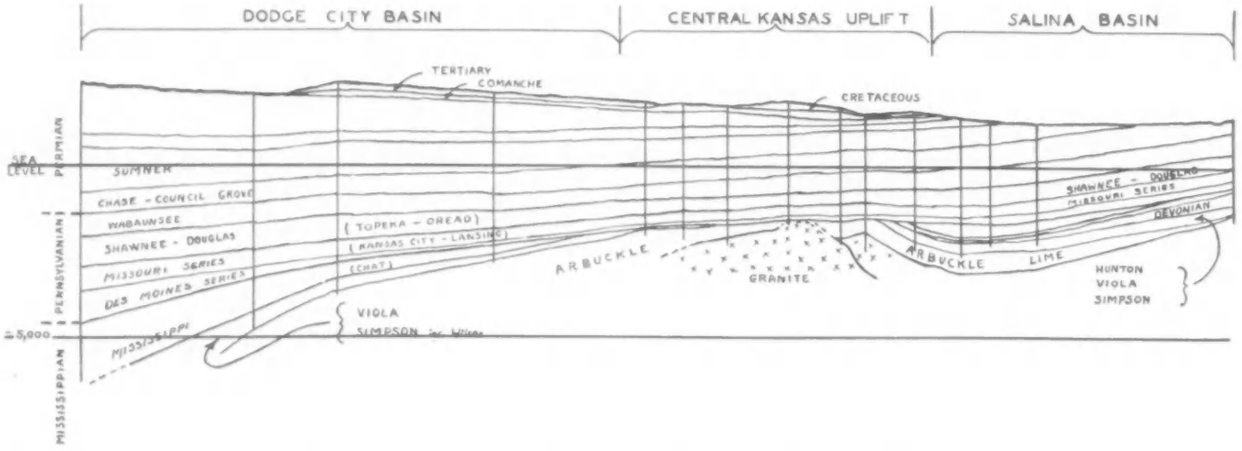
Kansas drilling activity is showing a progressive increase in both proven and wildcat areas, despite an acute allowable situation which is prolonging payout of investments to 15 and 20 years in many instances. During the first four months of 1940, the number of wells completed were 40.7 percent greater than in the corresponding period a year ago; totaling 515 against 366. The number of rigs in operation on May 1 were up the same percent, totaling 287 against 250. This trend toward increased activity is not momentary, as it has been taking form gradually during the past 18 months. Even more significant than the greater number of drilling operations, however, is the wider wildcat play.

As has been the case during the past five years, the region of the Central Kansas Uplift is attracting the majority of wildcat tests. But significant is the fact that the number of tests drilling off this trend has more than doubled since winter months. Eighteen drilling wells are widely scattered through the areas not at all or only indirectly related to the Central Kansas Uplift.

While the total number of off-trend wildcats may seem relatively small in proportion to the total of 52 wildcats drilling in the state, there is another interpretation to be made of the totals. Fully 20 wildcats drilling on the Uplift should more accurately be classified as attempts to extend producing areas, and this leaves only 14 actual wildcat drilling wells on the Uplift as compared with 18 elsewhere in the state.

The change in the picture is through a combination of circumstances, the first of which was the direction of interest toward the Forest City Basin section of the state. At the same time and of possible greater significance, was the seismograph testing done along both flanks of the north extension of Nemaha Ridge. A picture resulted from this work that did not entirely agree with previous information, particularly as it referred to that section of Salina Basin flanking the Ridge to the west.

Elsewhere in the state, the past 18 months have seen considerable core-drill activity, with Dodge City Basin again under investigation. A series of slim-hole exploratory tests in and to the west of Forest City Basin, with no



Northeast-southwest generalized cross-section from eastern Clay County, north-central Kansas, to western Harper County, Oklahoma. Major producing areas on both sides of Central Kansas Uplift are shown, with plunge into both basins indicated.

information available as to results, heightened interest. In southeast and southcentral Kansas, a wildcat opened a new Bartlesville sand area by flowing more than 1000 barrels per day. This well, in Cowley County, resulted in 6 other tests within a radius of 10 miles, each with the 1200-foot pay as the goal. To date, this play has not produced additional strikes, but 4 wells are still making hole.

As a whole, the state of Kansas ranks quite high in percent of total area possibly productive. Whereas most producing states count only 50 to 75 percent of the total area potentially productive, Kansas figures only 5 percent or even less as being definitely condemned. Also in Kansas there is a wide variety of geologic and structural conditions occurring under such conditions that every tool of the science of exploration is brought into play. Within the past year an increase in seismograph parties has been noted, greater use of stratigraphic holes, continued use of core drilling, and introduction of soil analysis—all applied to overcome specific problems.

Formations producing on the Uplift, the feature of the state which accounts for its position as a major oil producer, are general in occurrence. The accompanying cross-section shows this, and also the thinning of the formations through Salina Basin. While the Hunton and Simpson are present in Salina Basin tests, these two, including the Wilcox, are not accorded the same importance in the Basin as elsewhere. The other formations have a wide distribution area. The present play in off-trend areas is directed toward opening producing structures in both Basins, and upon the flanks of the Nemaha and Central Kansas features. For this reason and also because the present list of wildcats is widespread, the play has become increasingly important. Pertinent, too, is the fact that present wildcat effort is in most cases based upon careful explorative control rather than upon incomplete surveys, as has been the case in many past instances.

Since the first of the year, Kansas operators have opened eight new pools. These follow:

County	Formation	Depth	Initial
Barton	Basal sand	4498	27
Barton	Lansing	3090	101
Barton	Arbuckle	3402	113
Barton	Arbuckle	3350	2702
Ellsworth	Arbuckle	3384	566
McPherson	Mississippi	3348	1383
Johnson	Squirrel	794	gas
Greenwood		775	25

Some of these pools might be questioned as being so close to prior production that they might more properly, or with added development, be extensions. Future drilling will tell the story, but the fact remains that the strikes are the first concrete result of the increased activity in Kansas trend and wildcat drilling.

Oklahoma

Dill Pool Extension Flows 800 Barrels Through Choke

Wewoka Standard Oil Company and John Droppleman's Gahagen 1, NEc 3-11n-8e, semi-wildcat which extended production in the Dill pool, Okfuskee County, ½-mile northwest, flowed 800 barrels of oil through ¾-inch choke in 24 hours. Cromwell sand was perforated at 3545-60 feet after the Hunton lime failed to show.

Two new Hunton lime pool openers in Pottawatomie County were testing. Alma Oil Company's Harrington 1, NW SE NW 24-9n-4e, flowed 250 barrels in 24 hours by heads after acidizing with 3000 gallons. J. W. Meazel's Billington 1, SE NE NE 26-9n-4e, acidizing with 1000 gallons and flowed 105 barrels of oil and 6 barrels of water in 12 hours through tubing.

Gulf Oil Corporation and Magnolia Petroleum Company were actively developing the new Hunton lime horizon of the Fox and Milroy pools of Carter and Stephens counties, respectfully. These areas embrace the initial deep producers in Oklahoma, being long-life Simpson wells. Gulf Oil Corporation's Garett 8, C NW SW 27-2s-3w, plugged back from 8315 feet to 5604 feet and perforated casing in the Hunton lime, topped at 5068 feet. After 15,000 gallons of acid, the test was completed for 152 barrels of oil through a ½-inch choke. The company's Johnson "A" 1, C SE NW 27-2s-3w, plugged back to 5266 feet, acidized Hunton lime at 4755 feet with 20,000 gallons, and it established a flowing potential of 162 barrels daily. Magnolia Petroleum Company's Hefner-Mills 1-A, C SW NE 27-2s-3w, Fox pool, formerly completed at the 7996-foot level, plugged back to 5355 feet, acidized the new lime horizon with 20,700 gallons, and flowed 230 barrels of oil and 350,000 cubic feet of gas. Same operator's Harley "D" 1, C NW NE 24-2s-4w, Milroy pool of Stephens County, was running structurally high after encountering only a thin section of Woodford shale. Basal Hunton is expected at about 4550 feet.

West Weleetka pool, Okfuskee County, was defined to the north when Summit Drilling Company's Wilder 1, SE SE SW SW 7-10n-11e, topped Booch sand at 2430 feet and was abandoned at 2513 feet in dry sand. Operator's Steil 6, SE SW NE SW 18-10n-11e, had pay at 2172-79 feet and was completed for 150 barrels in 24 hours through 2-inch tubing.

West flank of Ponca City pool, Kay County, was defined as Malernee Oil Company abandoned Vanselous 1, C NE SE 13-25n-1e, at 4668 feet. Arbuckle lime, topped at 4547 feet, failed to show.

Tillman Wildcatting

Wildcatters turned to Tillman County, Southwestern Oklahoma for possible deep Arbuckle lime production. Gulf Oil Corporation was rigging up tools at Owen 1, NEc 27-4s-15w, 5 miles southwest of Grandfield. Paul Helf located a Canyon lime test at Ball 1, NE NW SW 30-1n-17w, 10 miles north of Frederick. Daley Oil Company located Bryant 1, SWc NW 33-2s-17w, in District No. 1. In District No. 2, Indian Territory Illuminating Oil Company was spudding Goodman 2, NEc SE 1-3s-19w. In adjoining Cotton County, Paul B. Scott staked Masonic 1, NWc SW 13-4s-13w, in the Radlett area. A set-back for the area resulted as Selby Oil & Gas Company et al abandoned Abbott 1, SWc NW 11-5s-12w, at 3485 feet in Arbuckle lime. This wildcat topped Canyon lime

at 2380 feet and Arbuckle lime at 3250 feet but failed to pick up any shows.

Johnson-Kemnitz Drilling Company et al's Nelf-Godfrey 1, SW SE NE 14-6s-6e, southeast of Aylesworth, Marshall County, plugged back to 3809 feet. An attempt to acidize the Simpson failed as water broke in, and orders were given to deepen to Arbuckle lime. Another wildcat disappointment was registered as Sinclair Prairie Oil Company's German 1, SW NW NW 1-6n-13w, Caddo County, showed only dead black oil after a 400-quart shot in the Simpson zone at 9205-9370 feet. Upper zones will be tested by stage plugging. Shows were encountered in the Pontotoc around 2450 feet.

Two wildcats were drilling below 9400 feet in Dewey and Kingfisher counties. Magnolia Petroleum Company's Fiekes 1, C SW SW 31-18n-14w, northwest of Oakwood, loaded the hole with heavy mud to 9475 feet after cementing off cavings at 7200 feet. Anderson-Prichard Oil Corporation and Olson Drilling Company's Geis 1, C NE SW 15-18-9w, was rotating slowly in hard dolomite at 9405 feet.

In Washita County, Continental Oil Company's School Land 1, C NE 16-8n-16w, topped first Granite Wash at 3005 feet and was still drilling in that formation below 6375 feet. This is a scheduled 10,000-foot or Simpson test.

St. Louis Pool Outpost

Thompson Brothers will test the northeast edge of St. Louis pool Pottawatomie County, at Truesdale 1, SEc NW 31-8n-5e. Surface pipe was cemented at 100 feet and drilling begun. In the same area, J. F. Smith's McKown "A" 1, SE SW NW 25-8n-4e, was drilling below 2500 feet.

Six miles south of Hobart pool, Kiowa County, Gled Oil Company was drilling a wildcat at McCurdy 1, NEc 18-6n-17w, making hole below 675 feet. Southwestern Oklahoma Oil & Gas Company's Foltz 2, NW SE SE 10-6n-18w, was shut down for repairs at 1130 feet.

Two wildcats were nearing completion stage in the Shawnee area of Pottawatomie County. Tabor, Coleman et al's McKinney 1, CE½ SE SW 11-10n-4e, was drilling in shale below 4500 feet. Elm Oil Company and Atlantic Refining Company's Evans 1, SEc NE 17-10n-5e, topped Mayes lime around 4350 feet and was making hole below 4525 feet. This test was running structurally low on this formation.

P. J. McIntyre's Richardson 1, NE SW NW 19-10n-8e, wildcat 2½ miles north of North Bethel pool, Seminole County, was a failure in Cromwell sand. Cromwell was perforated at 2020-60 feet, but the hole filled with water. Pipe was set at 2193 feet and hole bottomed at 3958 feet.

North of Castle in Okfuskee County, C. A. Yoakam et al's Long 1, C SW SE 34-12n-9e, opened a new gas area after gauging 10,000,000 cubic feet of dry gas from Hunton lime at 3771-3826 feet. Pay will be acidized. Seven-inch casing was cemented at 3762 feet.

Aladdin Petroleum Company et al abandoned Wentz 1, CW½ NE SW 11-22n-2e, northwest of Marathon pool, Noble County, at 4483 feet. Helmerich-Payne and Blackwell Oil & Gas Company's State 1-B, SE NE SE 33-20n-4e, north of Ingalls pool, Payne County, was drilling in dolomite at 4150 feet.

Indo Oil Company shut down at Slick Estate 1, NWc 1-16n-9e, in the Northeast Bristow area of Creek County, at 2300 feet. A small show of oil was logged in the Layton sand at 1145-78 feet, and 8-inch pipe set at 1225 feet.

Small Wildcat Producer

A minimum wildcat producer was going on the pump in Comanche County. W. I. Wynn's Lowe 1, SE NW NW 7-1n-10w, south of Lawton pool, was estimated at 10 to 15 barrels daily at 300 feet. Lowe 2, SE SE NW NW 7-1n-10w, was drilling at 450 feet.

Two new tests were drilling in the Byars pool, McClain County: Simpson-Roodhouse Drilling Company's Norris 1, NW NE SE 9-5n-3e and Patsy Oil Company's Caldwell 3, NW SE NE 16-5n-3e.

Morgan-Gulf Production Company of Houston and Southwestern Drilling Company's Diamond 1, CE½ NW SE 33-9n-9e, Hughes County wildcat between the Adams and Fuhrman pools, topped Cromwell sand at 3330 feet, drilled to 3356 feet, and cemented pipe at 3352 feet. After drilling plugs to 3368 feet, the hole filled with 850 feet of oil and 1200 feet of salt water. Drilling proceeded to test the Wilcox. Should this formation fail to show, the upper Cromwell sand, which showed considerable gas, will be shot and perforated.

Illinois

White County Wildcat Shows For Large Well in McClosky

Centralia, Ill.—Sun Oil Company was preparing to drill in a prospective pool opener in White County which some observers already have hailed as one of the major Illinois strikes of the past 18 months. The company's Clarence Brown 1, C S½ SE NW 2-4s-9e, cored 4 feet of McClosky saturation at 3371-75 feet. It flowed for 14 minutes on a drill-stem test and estimates of potential production have ranged as high as 1000 barrels.

Another White County wildcat, Kingwood Oil Company's Paul Martin 1, NW SW NE 13-7s-9e, which drilled a dry Devonian to 5225 feet, was being plugged back to test light shows above the McClosky after perforations opposite saturation in that formation failed to produce commercially. The McClosky shows were at 2972-80 and 3002-3020 feet. Rosiclare was topped at 2877 feet, St. Genevieve at 2856 feet, and Glen Dean at 2329 feet.

Deepest test ever drilled in Illinois, The Pure Oil Company's Stella Billington 3, in the Cisne field of Wayne County, CE½ SE NE 27-1n-7e, was abandoned at 7206 feet, about 90 feet in the St. Peter (Wilcox) sand. The Salem was topped at 3652 feet, Osage at 3895 feet, Kinderhook at 4606 feet, Silurian at 5710 feet, Trenton at 6351 feet, and St. Peter at 7118 feet. Estimated cost of the venture was about $150,000. It was the first test to the St. Peter in an area where production is obtained from shallower levels. Cisne field is productive in the McClosky.

A Carter Oil Company wildcat, Vineyard 1, SW SE NE 21-7s-8e, Gallatin County, on the Omaha dome, was abandoned at 3165 feet, 8 feet in St. Louis lime. It found the Tar Springs at 2281 feet, Glen Dean at 2383 feet, Hardinsburg at 2410 feet, and Golconda at 2505 feet. No shows were reported.

Centralia Outpost Good Well

A southwest Devonian outpost in the Centralia field, Clinton County, A. W. Gerson's Fee 1, Lot 23, Block 3, Finney Heights, was initialed at 400 barrels in 24 hours without an acid treatment. It was the surprise well of the week in the Centralia area inasmuch as producers two blocks north made at the most between 200 and 300 barrels after acid.

The two Trenton lime tests in the Centralia field still were some distance above their objective. In the south part of the field J. Hal Jones' Lena Haack 1, Lot 3, Block 2, Kohl and Warner addition, recovered 300 of 700 feet of drill stem lost in the hole and was being cleaned out at about 3000 feet. Total depth is 3600 feet, about 150 feet above the anticipated depth of the Trenton. In the north part of the pool, Ames-Hicks' Brown 1, Lot 12, Block 5, Second Home Terrace, was drilling at about 3520 feet after twice regaining circulation lost between 3335-50 and 3420-30 feet.

In the Salem pool of Marion County The Texas Company had 107 operations underway, a figure which equals or excels the company's record number of simultaneous tests in the pool. A west outpost to Devonian production, Conrey & Griffin's West Nation School 2, Section 33-2n-2e, began flowing following an acid treatment, but had not been gauged. It is bottomed at 3546 feet. A north McClosky outpost, The Texas Company's Shanafelt 6, Section 9-2n-2e, was waiting on a production test and is apparently about a 100-barrel well. Contractors estimate there is from 7 months to a year's drilling in the field to present productive horizons.

Coles County Deep Test Dry

In Coles County, where The Carter Oil Company last week abandoned J. H. Seaman 1, NW NE SW 35-12n-7e, two miles south of Mattoon, after drilling to the St. Peter at 4910 feet, and then plugging back to test a Fredonia show at about 2000 feet, J. H. Seaman 1-A, 935 feet from Seaman 1, was drilling below surface casing. The new well is being drilled to more thoroughly test Fredonia and St. Louis possibilities of the area.

Further north in the county, The Carter Oil Company has staked location for another wildcat, ¼ mile southeast of Cooks Mills, Cobb 1, SW SE 10-13n-7e.

A long anticipated play in Beaucoup township of Washington County apparently will materialize soon with a Devonian test, The Ohio Oil Company's Mrs. L. H. Buehner 1, N½ NW

9-2s-2w. Acreage in most of the township is held by the company and Shell Oil Company.

A Madison County wildcat, Jennings Brothers H. S. Wagner 1, SE SW NW 22-4n-5w, set casing to the top of the Trenton at 2403 feet and was preparing to drill into the formation. The Golconda was topped at 620 feet, Stein at 705 feet, and St. Genevieve at 997 feet.

The first Devonian lime test in Jasper County, The Pure Oil Company's M. P. Redmon 1, CE½ NW NW 16-5n-10e, was drilling below 3825 feet. It is 3 miles south of the county's only production, the Boos field, opened a few weeks ago with a McClosky completion by The Pure Oil Company.

JOHN CAXON, petroleum engineer for Phillips Petroleum Company at Houston has been tranferred to Burbank, Osage County, Oklahoma. T. H. Awley replaces Caxon at Houston.

Indiana

Perry County Wildcat Staked In Tell City Townsite

Wildcat failures last week covered a wide front, but new locations were being made daily.

In Perry County, within the town limits of Tell City, Louis Stamp located Emma Huck 1, wildcat in Block 382, 6s-3w.

In Luce Township, Spencer County, George Mogan & Ben H. Davis set surface casing for William A. Simms 1, SW SE 22-6s-7w, 3 miles northeast of Trio Oil Company's Swallow 1, Waltersburg sand producer. Joe Hatfield, Rockport, is contractor, and the test will be carried to the McClosky unless oil is found at a shallower depth. Gulf Refining Company holds offset acreage.

Dry through the Waltersburg at 1065 feet was Harry Appell et al's A. C. Thomas 1, SW NE 12-7s-8w, in the Hatfield area of Spencer County, just west of C. L. Snell, Trustee's Prudential Life Insurance Company 1, a light Waltersburg producer. It may be taken to the McClosky.

Dry through the Palestine was a projected southwest extension to the Rockport gas field, Spencer County: Troy Refining Company's Mackey 1, SW SE 31-7s-6w. In the same area, Hendrickson & Seitz located J. W. Williamson Heirs 1, SW NW 31-7s-6w.

In Sullivan County, Haddon Township, Pearl Poole's Shepherd Heirs 1, SE NE 13-6n-10w, was abandoned at 1406 feet. In Gill Township, C. C. Davis' L. F. Hull 1, NW NW 3-7n-10w, was abandoned at 800 feet.

Two Knox County wildcats were abandoned: In Busseron Township, M. I. T. Corporation's Elisia McHenry 1, Donation 214, 5n-9w, at 3680 feet, and in Harrison Township, Newton Pipeline Company's Clyde Like 1, NE Donation 171, 2n-9w, at 1935 feet.

In the South Griffin field of north Posey County, Ray Ryan located Keck 1, NW SE NW 34-3s-14w.

Kentucky

Muhlenberg County Devonian Test Dry to 3003 Feet

Two miles south of Reed, Henderson County, R. Hal Compton et al spudded Morris 1, east offset to Ray Cooper et al's George Fulton 1, showing for a producer in the Jones sand.

In McLean County, 4 miles south of Calhoun, O. D. Vickers et al abandoned C. S. Vickers 1, at 600 feet.

Also abandoned was a closely watched Devonian wildcat in Muhlenberg County, 4 miles east of Belton: Walter Hagan's Drake 1, which reached 3003 feet.

In the Corydon section of Henderson County, after drilling the St. Louis at 2752 feet, Sun Oil Company plugged back and set casing to a doubtful McClosky show in Corydon Unit 4.

In the Utica area of Daviess County, Nick Shiarella et al were moving in for J. W. Ruby 1, a mile north of Masonville. In the Utica field, H. C. Farmer et al's Vernon Fitts 1, ¾-mile north of Utica, was a 25-barrel completion in the Waltersburg sand at 989-1000 feet .

Delay Ruling on Texas Lands Near Cedar Lake, Gaines

Decision on two applications to lease Texas state lands near Cedar Lake, Gaines County, as been postponed by Land Commissioner Bascom Giles until June 1. A hearing was held in Austin last week at which a large group appeared to discuss the tracts of 1736 acres which are involved.

In announcing the delay, Giles said that he would hear further arguments on the matter before making a final decision. This vacancy affects about 1000 sections of land in Gaines and Dawson counties.

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Forest City Basin

Acid Boosts Yield at Nebraska's Second Well

Pawnee Royalty Company increased production at its second strike in the Falls City area of Nebraska after acidizing with 500 gallons. Bucholz 1, C NW SW 17-1n-16e, flowed 163.3 barrels of 31.9-gravity oil in 7½ hours through 2-inch tubing. Hunton lime at 2217-32 feet responded to acid without taking in water. Bottom-hole pressure was very low. The first 24 hours the well gauged 343 barrels, and a 1000-barrel storage tank was full. After more than four days of production, more than 1300 barrels was taken from the well, averaging more than 330 barrels daily natural. The oil is being trucked to the Searle Refining Company at Omaha, under an old contract, and is bringing 94 cents a barrel. Owners announced they would try for the state bonus of $15,000 for the first commercial producer which must average 50 barrels daily for 60 consecutive days. The company's initial producer failed on this test when cavings and paraffin trouble halted production. Other tests are being contemplated surrounding this well.

E. T. Lindsay and Bells-Wells Oil Company's Leblanc 1, CW½ SW NW 35-6s-1w, Cloud County, Kansas, in the Saline Basin, was abandoned. Mississippi lime was topped at 2528 feet, Viola at 3090 feet, Simpson at 3296 feet, and Arbuckle dolomite at 3377 feet. An electric log failed to reveal any shows. The test was drilled on a block of acreage farmed out by The Carter Oil Company. Nearest production is in the Lindsborg pool, McPherson County.

C. L. Carlock et al staked Crawford 1, SWc 15-11-18w, wildcat east of Denmark in Lincoln County, Kansas. Farmed out from The Carter Oil Company, this test is 60 miles southwest of the Cloud County failure.

In Northern Douglas County, northeastern Kansas, Kerlyn Oil Company's Wise 1, C SE SW 28-12s-20e, skidded the rig 10 feet east and was making hole below 1850 feet.

Rogers & Morrow abandoned Seamster 1, CN½ SW SE 6-65n-13w, 6 miles southeast of Lancaster, Schuyler County, Missouri. Formations penetrated were: Mississippi 383 feet, Warsaw 460 feet, Burlington 590 feet, Choteau 728 feet, Kinderhook shale 830 feet, Devonian 890 feet, Kimmswick 1155 feet, St. Peter (Wilcox) 1314 feet, and Arbuckle 1385 feet. Bottom was at 1400 feet. Ettington & Holmes' Kapps 1, SWc 31-64n-15w, topped Mississippi at 184 feet, Burlington at 270 feet, Choteau at 405 feet, Kinderhook at 533 feet, and shut down at 830 feet in the Devonian, topped at 570 feet.

Frank W. Miller spudded Hadfield 1, SWc NW 34-60n-7e, Lewis County, eastern Missouri. In Livingston County, Chillicothe Syndicate was drilling Linton 1, C W½ SE 15-56n-23w. Brin & Nathan's Decker 1, C NW NW 1-61n-38w, Holt County, set 10-inch casing at 1056 feet and was preparing to deepen after a long shutdown.

Gallamore et als Buckler 1, C SW NW 22-52n-14w, Missouri, topped Sedalia at 368 feet, Choteau at 385 feet, and suspended at 685 feet. Ettington et al's Clark 1-A, NEc SE 8-63n-14w, topped the Hunton lime at 739 feet and shut down rig at 958 feet.

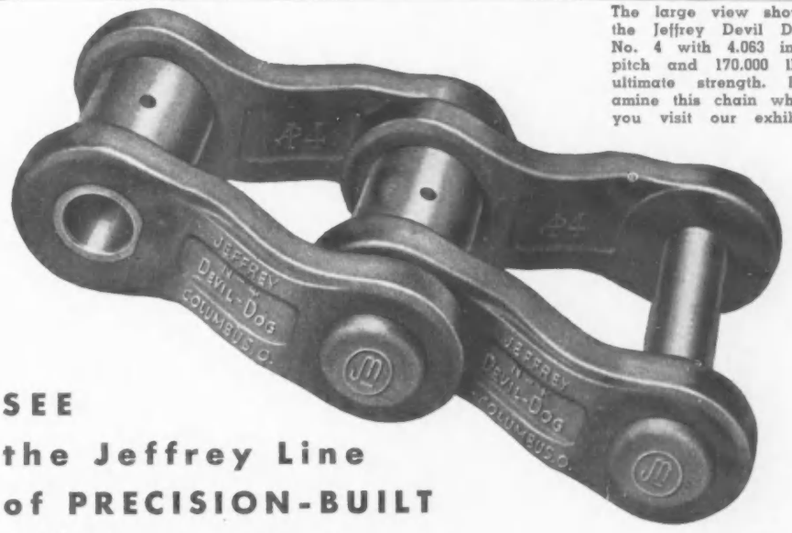
Nowata County Waterflood

Forest Producing Corporation has petitioned the Oklahoma Corporation Commission for permission to flood the north 20.48 acres of Lot 2 in Section 1-25n-16e, Nowata County, Oklahoma. Wells on the lease are producing ½ barrel of oil per day. The firm will develop 10 acres within 12 months by drilling additional wells and introducing water into the producing sand.

Ask 160-Acre Spacing for Deese Sand in Chickasha

Magnolia Petroleum Company, The Carter Oil Company and Oklahoma Natural Gas Company seek drilling units of 160 acres in the Deese sand zone of the Chickasha pool, Grady County, Oklahoma. The source of supply embraces approximately 5760 acres as follows.

On April 11, 1939, the applicants completed the Deese sand discovery C SE SW 26-5n-8w, for 10,000,000 cubic feet of gas. At 6620 feet, the bottom-hole pressure stood at 1880 pounds.



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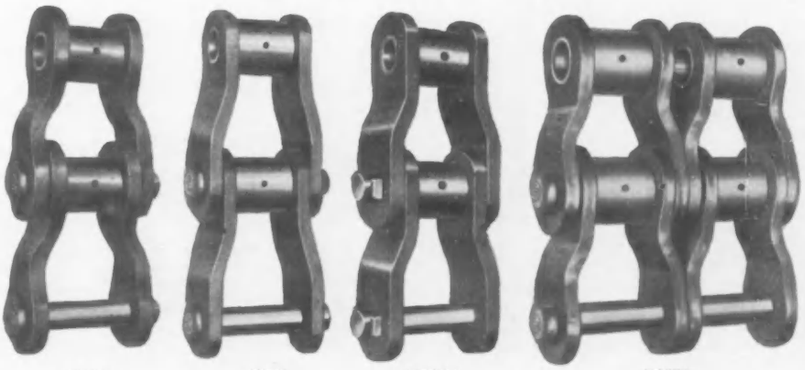

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West Texas

Crockett County Test Shows For Permian Pay Strike

Western Crockett County has another prospective oil discovery from the Permian at a shallow depth, while the deep seated Todd structure accounted for a second producer that will influence development within and beyond the discovery block. The county's earlier oil and gas strike remained shut in last week with lease tanks filled after receiving a short official gauge for potential rating. Ward County's previously indicated wildcat oil completion from a reef type of structure is due for a plugback job because of excessive water.

Natural flow of 30 to 40 barrels of fluid hourly, averaging 60 percent water, appeared on initial test given Atlantic Refining Company's University-Wicket 1, C SW NE Section 12, Block 16, central Ward County, from broken saturation at 2842-2920 feet. The volume of fluid was reduced to 20 barrels hourly without altering the water percentage when a 44/64-inch tubing choke was installed. It is 3 miles south of gas-distillate production developed by Magnolia Petroleum Company on the Sealy Ranch, and is 2¼ miles west of nearest oil production, with a saddle between as indicated by a structurally low failure. The oil tests 28 to 29 gravity.

Moore Exploration Company et al's Noelke 1, C NW SE HE&WT Section 10, Block GG, western Crockett County and 5½ miles southeast of the Soma discovery, was drilling lime at 2240 feet after showing for a small well in this zone. The well averaged 7 barrels of oil hourly on swabbing test after treating broken saturation at 2152-2233 feet with 3000 gallons of acid. Olson Drilling Company, contractor, owns an interest in the well, and 5300-acre block, which was assembled before an aggressive lease play swept across the county mid-April.

Second prolific completion from the Crinoidal lime for the Todd structure, Crockett County, was made by Continental Oil Company et al's J. S. Todd 3, 1170 feet east of the discovery, with a natural flow of 662 barrels of 41-gravity oil in 7 hours through 2-inch casing outlet. Gas volume is rated at 1,124,000 cubic feet daily. Production is from saturation at 5760-5850 feet, with 7-inch pipe cemented at 5739 feet. Top of Crinoidal, basal Strawn, was called at 5735 feet, 3214 feet subsea, being 99 feet lower than the discovery. The same structural difference prevails on the pay zone. The wells are on a 4480-acre unit block with Continental Oil Company holding 61.58 percent interest. Acreage to the west and north of the section bearing the wells is owned by Amerada Petroleum Corporation et al, and development will be started shortly.

Simpson and Ellenburger zones in the Ordovician are potential sources of production for the structure. Favorable showings were developed from these lower formations by 2 of the 3 failures previously drilled over a period of years. Production from the Crinoidal heretofore was restricted to the Big Lake field.

Crockett Shallow Test Gauged

Official potential gauge given Soma Oil & Gas Syndicate's Noelke 1, western Crockett County shallow discovery that precipitated a lease boom since it blew out April 12, credits the well with producing 129.7 barrels of 32.2-gravity oil in 4 hours through two 3-inch casing outlets with tubing closed. Gas volume is rated at 19,280,000 cubic feet daily. Production is from Yates sand at 1075 feet, with an elevation of 2360 feet. The well was shut in after the test as lease storage, amounting to 4000 barrels, was filled. J. N. Gregory and Bryce McCandless have been successful in selling checkerboard acreage around their contracted wildcat test to be drilled on the Noelke Ranch, Tract 8, Archer County School Lands, League 3. These operators paid $30 per acre, ⅓ cash, for 4000-acre block while the discovery was flowing wild. Superior Oil Corporation purchased half interest in the test and a portion of the block.

Helmerich & Payne and Atlantic Refining Company's University 1, C NE NE Section 11, Block 11, Andrews County wildcat, changed to cable tools and was unloading hole to test oil saturation at 4260-73 feet, with an elevation of 3302 feet. It was scheduled to drill to the Holt zone, or 5500 feet, but

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the favorable showing induced owners to cement 7-inch at 4238 feet to try for a well in the regular Permian.

Gulf Oil Corporation's Scarborough 1-A, SEc PSL Section 7, Block C-22, a mile north of production in the Keystone field, Winkler County, missed the regular oil and gas pays and was drilling lime at 3730 feet. It will be carried to the lower Permian. Top of brown lime was called at 2560 feet, first Yates sand at 2648 feet, with an elevation of 2976 feet.

Acreage assignments to independents in eastern Howard County and Mitchell County are to be followed by the drilling of semi-wildcats. In Mitchell County, Ollie Williams and James Ewing contracted to drill an 1800-foot test on the Strain Estate in return for a 1200-acre block that centers upon the following surveys: Joe Taylor H&TC Block 97 and T&P Block 27. The Howard County assignments involve the N½ NW W&NW Section 116, Block 29 by Tide Water Associated Oil Company to Cecil Ewing et al and the 80 acres adjoining on the south to Huff Production Company. The latter also obtained lease on SW¼ of the same section from Texas Pacific Coal & Oil Company. The assignors retained an over-riding royalty and production rights below 3500 feet.

M. A. Grisham et al's Cowden 1, semi-wildcat on a northwest trend from the Cummins sector of the Goldsmith field, swabbed and flowed 200 barrels fluid daily, including about 50 barrels wash water, to qualify for a commercial producer. Broken saturation, topped at 4275 feet, was given 3-stage treatment with 7000 gallons of acid after plugging back from 6090 to 4516 feet. This outpost missed the prolific gas found by an old well a mile to the southeast. Phillips Petroleum Company and The Pure Oil Company's Clyde Cowden 87, SEc NW T&P Section 13, Block 44, situated near southeast edge of the Goldsmith structure, recorded a potential of 6566 barrels oil and 6,340,000 cubic feet of gas after using acid at 4152 feet. The partnership has completed 23 wells since making contract last December to drill 60 tests in the southeast portion of the field. Six additional tests are underway. C. A. Everts Drilling Company's Johnson-Phillips 1, NW SE T&P Section 30, Block 43, T-1-S, southeast outpost for the Goldsmith field, was drilling at 4265 feet with an elevation of 3071 feet. No important saturation was logged in drilling to this level.

Boost Gas/Oil Ratio For Riverside Field

The Texas Railroad Commission has issued an order amending the gas/oil ratio rule in the Riverside field, Nueces and San Patricio counties, permitting operators to produce 5000 cubic feet of gas with each barrel of oil, instead of 2000 cubic feet as provided in the old rule.

Kermit Repressuring

Illinois Oil Company has been granted a permit to conduct repressuring experiments in the Kermit field, Winkler County. The allowable assigned to the input well is to be divided among other wells on the same section.

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Left: Cleaning pipe in a central yard on the Corsicana-Beaumont reconditioning job.

North Texas

Young County Wildcat Flows From Mississippian

Completion of a prolific oil well in the Knight Pool and a wildcat flowing well from the Mississippian lime attracted attention to deep operations in Young County, while adverse reports were recorded on a number of North Texas prospects.

A record initial yield for the district is indicated for Textor Oil Corporation, Jerome McLester and C. A. Lupton's J. F. Knight 2-C, two miles south of Graham, in recording a natural flow of 624 barrels of 43-gravity oil in 30 minutes with a gas-oil ratio of 800/1 after being shutin 24 hours. Production is from Caddo (Bend) lime at 3736-55 feet. A heavy flow was anticipated as the production blew tools from the hole earlier in the week, damaging the derrick, when plugs were drilled from 7-inch pipe cemented at 3736 feet. Two-inch tubing later was lowered to 3754 feet with the aid of pressure-control equipment. The well is in the west portion of the J. R. Knight Survey, A-2204, and less than a mile north of flowing production developed from the same horizon in 1925.

West portion of Young County recorded a new pool with completion of A. T. Strong et al's Stovall 1, NE Section 2946, TE&L Survey, four miles southwest of New Castle, flowing 134 barrels of oil and 429 barrels of water initial. Production followed injection of 10,000 gallons of acid through casing perforations at 4590-4610 feet in Mississippian, topped at 4593 feet. The hole was plugged back from 4732 feet. The Caddo, entered at 4120 feet, proved dry. Strong et al have a 3100-acre lease block in the area, which straddles Sixmile creek.

Aggressive development underway in Montague County met with reversals the past week. Two Ellenburger prospects drilled by Sinclair Prairie Oil Company as offsets to the company's Bend lime discovery at Bonita swabbed and bailed dry after drilling plugs from 7-inch pipe. However, both tests will be plugged back to try for production through casing perforations slated to be made opposite nominal saturation passed up in the Lower Bend. Magnolia Petroleum Company's Gilbert 1, northeast outpost and the only remaining drilling test, was coring at 5200 feet. The Bonita discovery logged Bend pay at 5239-49 feet.

Ramsey Petroleum Corporation and Stanolind Oil & Gas Company's Magee 1, wildcat on the southeast edge of Montague townsite, halted in black shale at 6541 feet and is due to be abandoned. Walter Gant and Continental Oil Company's Brown 1, 5½ miles northeast of Bowie, has plugged back to 5922 feet to resume testing through casing perforations after failing to make a commercial well in Bend saturation at 6070-6145 feet with multiple acid treatments. Sinclair Prairie Oil Company's Milam 1, two miles southeast of Ringgold was drilling at 2400 feet, and Benton 1, near east edge of Nocona, was drilling at 950 feet. The latter company and Harvey Drilling Company's Threadgill 1, 3½ miles west by north of Stoneburg, was drilling at 4320 feet. Youngblood and Foree's Beasley 1, seven miles north of Nocona failed to enocunter encouragement for production in penetrating the Strawn to 3250 feet. It is contracted to 3600 feet.

Stanolind Oil & Gas Company's McCool 2, south and west of Bend producers in the Nocona deep pool, entered the Bend at 5209 feet, or 53 feet lower than the first completion on the lease. Drill-stem test at 5220-29 feet proved dry, and a second test at 5299-5310 feet yielded salt water. It will be deepened to try for lower pay that was picked up by the most westerly producer, which tested water in the regular Bend oil zone.

Sinclair Prairie Oil Company's Hudspeth 1, southwest edge of well for the Walnut Bend field, Cooke County, plugged back to Ellenburger at 5460-6180 feet to 4992 feet to perforate casing set at 4961 feet opposite nominal saturation in the Strawn.

Shell Oil Company's Henderson 2, southeast offset to the company's oil discovery in southwestern Clay County, swabbed 169 barrels of pipe line oil in 18 hours after drilling plugs from 4½-inch casing seated at 3539 feet with the hole bottomed in Strawn at 3551 feet. Perforation of casing opposite satura-

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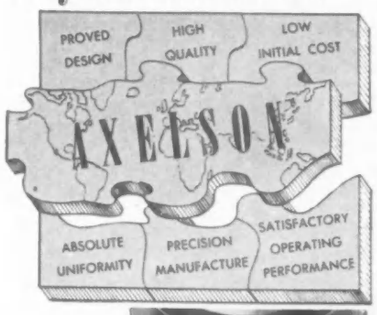

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tion at 3500-25 feet with 60 shots increased the oil yield to an average of 8 barrels hourly on 29-hour swabbing test. This new well and the discovery cased off oil pay in the upper Strawn. North central Clay County is to be tested for Bend production through the deepening of Franklin Drilling Company et al's Staggs 1, Block 34, Angelina County School Lands, 6 miles north of Henrietta. This wildcat was abandoned March 1938, in shale at 4850 feet. W. B. Omohundro recently acquired an interest in the block. Omohundro and Staley Oil Company's Percifield 1, SEc Block 37, Belcher Subdivision, was drilling Bend lime at 5740 feet and probably will be carried to the Ellenburger.

Bridwell Oil Company's Halsell 4-A, ¼-mile south of production in the Halsell pool, missed the pay zone in the lower Strawn near the 4700-foot level, and was drilling to 5090 feet to explore the Bend.

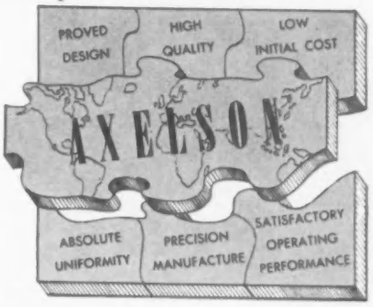
The northeastern Archer County wildcat drilled by Walter Gant on the Vogtsberger tract, Block 3, German Emigration Company Survey, is awaiting orders after testing dry at 4720 feet. Seven-inch pipe was cemented at 4651 feet to test saturation topped at 4659 feet. The hole was plugged back from Ellenburger at 5245-5325 feet.

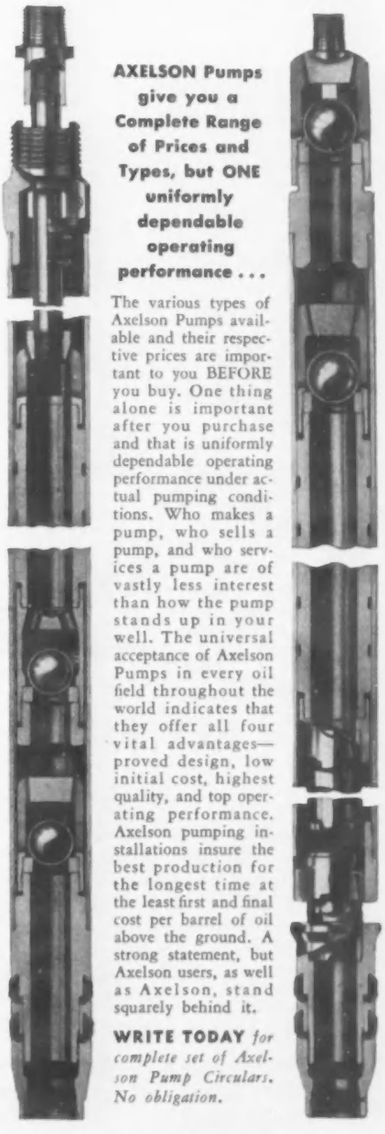
Cable-tool unit was installed late last week to work over Magnolia Petroleum Company's Thom 3, prospective Ellenburger producer for the Archer County portion of the K-M-A field. This well flowed 54 barrels of oil and 178 barrels of water in 19 hours when first tested in saturation at 4419-23 feet with 5½-inch pipe on top of Ellenburger at 4415 feet. The hole was cemented back with 120 sacks of cement at 3000 pounds pressure, and approximately 25 sacks of cement went into the porous dolomite.

Southwestern Jack County added a new oil pool from the upper Strawn when Harper Petroleum Corporation's J. W. Kinder 1, near NWc SE TE&L Section 2667, developed hole full of 42-gravity oil after drilling plugs from casing. Production is from Knox sand at 2115-30 feet with the hole bottomed in shale at 2133 feet. It is expected to show an initial of between 100 and 150 barrels. Oil saturation in Buttram sand at 1835-45 feet was passed up. The company holds lease on a 2100-acre block, and has spudded Vanhooser 1, a north outpost, while Schmid and Willis' J. W. Kinder 1 are starting a nearby test.

Initial yield of 154 barrels of 42-gravity oil was developed by Paul Steed, Joe Cooper and Ernest Wilson's Stewart 1, north offset to a Jack County discovery made last February by Steed and associates. The new well was completed in the upper Strawn saturation at 2907-28 feet after plugging back from 3072 feet to 2930 feet. Three-foot section of oil sand, topped at 2997 feet, was logged in drilling below the discovery zone. The allowable production of both wells, which are without a pipe line connection, is being marketed by tank trucks at 88 cents per barrel at the well. Harper-Knappenberger and Steed have contracted for 2 Jack County wildcats. Their first test has started up on the Marley track, ½-mile east of Senate, and location was made last week for J. A. Crum 1, northwest corner of 115-acre track, BBB&C Survey.

Only one name fits...





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East Texas

Gregg County Outpost Has Gas-Distillate Indications

Pettit lime saturation logged by Roger Lacy's Fee 1, east outpost for the Willow Springs deep pool on the east edge of the Gregg County portion of the East Texas field, indicated probable gas and distillate production in drilling at 7305 feet. A string of 5½-inch pipe was cemented at 7281 feet last midweek for a production test. Massive anhydrite was logged at 6192-6443 feet with an elevation of 301 feet.

Excessive flow of brine was encountered by J. S. Harrold et al's Alford 1, Rusk County wildcat near Henderson that was scheduled to be deepened from 6802 feet to 7500 feet to test the Pettit, resulted in plugging orders without making additional hole. Protection string of 9-inch was cemented at 1150 feet after the old test was taken over from Nivla Oil Corporation et al. The salt water thinned the mud beyond practical operations. Harrold et al are negotiating with the companies that contributed toward deepening operations for the drilling of a new test on the block.

Sun Oil Company's Everhart 1, second test for the north portion of the Chapel Hill deep area, Smith County, logged massive anhydrite at 7215-7470 feet with an elevation of 506 feet and was coring for first saturation in the Glen Rose at 7570 feet. The company's Sanders 1, ¾ mile south of gas-distillate production, was drilling at 4800 feet, having recorded a structural dip of only 40 feet in logging top of Georgetown at 4408 feet, with an elevation of 460 feet.

East Texas Pressure Drops At More Rapid Rate

The Texas Railroad Commission last week reported a decline of 3.79 pounds in the bottom-hole pressure for the East Texas field from April 8 to May 8. The average pressure on the latter date stood at 1056.16 pounds.

Although Dr. F. V. L. Patten, director of production for the commission, agreed that the drop was more rapid than usual, he declined to express an opinion as to its significance.

Ask to Conduct Tubing Raising Experiment in East Texas

A new method of production for wells producing large quantities of water in the East Texas field was proposed by Tide Water Associated Oil Company at a hearing before the Texas Railroad Commission last week. The company plans to lift the tubing in its wells about 1500 feet, but not above the fluid level in the well.

Engineers for the company and Cities Service Oil Company expressed the opinion that by this method west edge wells would be enabled to handle a much larger volume of fluid and effect a skimming operation. It is expected that the increased volume of fluid handled would also effect a flushing action that would bring more oil from the sand.

The program would be largely experimental at the present time. Tide Water Associated Oil Company wished to apply the plan to one of its wells, and Cities Service Oil Company asked a permit to test four on this basis.

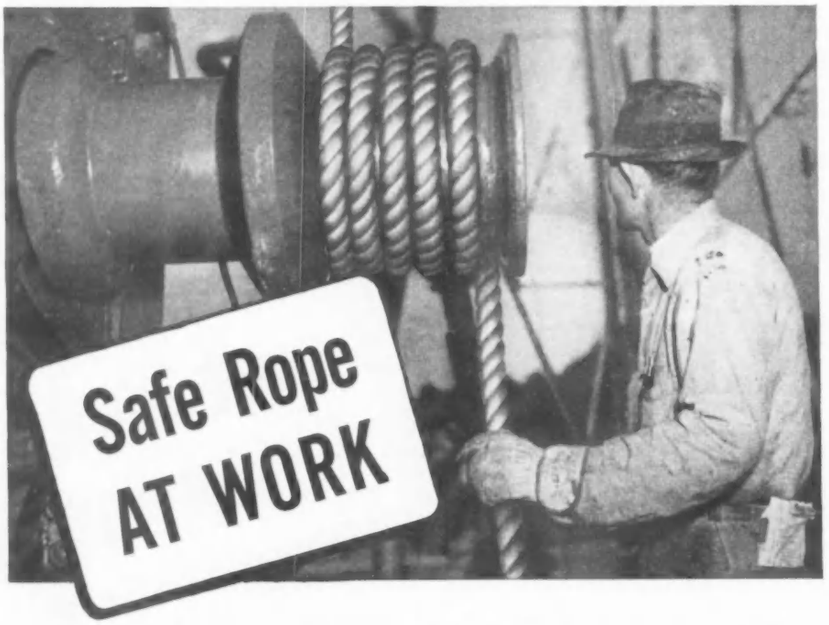
Request Recycling at Hamman Field, Brazoria County

Hamman Exploration Company, at a hearing before the Texas Railroad Commission last week, requested a permit to install and operate a recycling plant in the Hamman field, Brazoria County. The plant is to cost $250,000 and would take production from four horizons, 8100, 8800, 8900 and 9100 feet.

There are 25 producing wells in the field, of which Hamman Exploration Company owns 19. The first well was completed in March, 1936, and had 3200 pounds flowing pressure on the tubing. The oil varies in gravity from 38 to 55 degrees, and it is proposed to supply Bay City with gas for domestic use and recycle the remainder, returning the residue to the 9100-foot sand.

The plant would have a capacity of 20,000,000 cubic feet a day, and the gas would be returned through one well.

Approximately 40 land and royalty owners appeared at the hearing to oppose classification of any well in the field as a gas well. However, they did not object to the recycling program.



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Southwest Texas

South Coast Drilling Activity Rivals Peak of Two Years Ago

Discovery of two new Jackson County fields, vital extensions to several other areas and apparent inauguration of an extensive submerged wildcatting program in Nueces Bay gave the South Texas Gulf Coast a new life. The week's developments rivaled activity of two years ago when this sector was a hot spot.

Wellington Oil Company uncovered oil production on the Lolita prospect with L. Ranch Company 1, Lot 162, Third Registered subdivision of the LaWard Farms and in Survey No. 11. The well had cored a sand at 5933-38 feet and on drill-stem test at 5932-38 feet flowed 34-gravity pipe-line oil under 80 pounds working pressure in 10 minutes. When the tool was pulled from the hole, it continued to unload, the last 18 stands being filled with oil. It was estimated that the oil column in the drill stem was at 5500 feet. The test was to be completed through perforations at the lower level. It previously had shown gas and distillate on several tests at levels ranging from 8024-75 feet.

The test is on a block in which a number of companies hold protection. Some of the acreage is near expiration, meaning a quick drilling program. Slightly more than a mile west, Barnsdall Oil Company's Lazarus 1, Clements subdivision, was drilling at 5000 feet. It will further define the structure which was worked with subsurface geology. Wellington Oil Company previously had drilled a well in the area which had a showing of oil and gas. Other wells also indicated structural conditions favorable. The test was drilled under contract by Cartter-Rubsamen Drilling Company.

Near Texana field, Heep Oil Corporation's Robertson 1, Section 22, was looking favorable as the discovery of a new pool. It cored a sand section at 5937-46 feet and on drill-stem test recovered 6 feet of mud and sand and 2 gallons of muddy distillate under 500 pounds pressure in 3 minutes. It was coring below 6000 feet. The well, drilled on a Sun Oil Company farmout, was first projected by A. E. Masterson and R. B. Swiger. The potential field discovery is located 2 miles northeast of Texana field's distillate production, also in the Frio.

Potential test on Renwar Oil Corporation's Phillipi 1, Block 25, Bennett subdivision, rates the producer at 619 barrels per day through ¼-inch choke under pressures of 900 pounds on tubing and 975 pounds on casing. The gas/oil ratio was 663 to 1. This well, completed through perforations at 5750-5762 feet, widened the West Ranch field 2000 feet southwest and extended the 5700-foot pay nearly 2 miles southwest. Offsets are being started by Shell Oil Company and Magnolia Petroleum Company. Two miles southwest of the field, a salt water well defined production. W. Stewart Boyle's Bennett 1, Musquez Grant, was abandoned at 6012 feet.

W. Stewart Boyle added ½ mile to the southwest side of the Mauritz field of Jackson County with Mauritz 1. The well, still cleaning, was making between 13 and 15 barrels of fluid per hour through ¼-inch choke under 575 pounds tubing and 1000 pounds casing pressures. Production is from sand at 5550-5561 feet.

Running 24 feet higher structurally than the discovery, H. H. Howell's Schroede 1 encountered the sand at 5078-94 feet to extend the Orange Grove field of Jim Wells County 1 mile northeast. On a drill-stem test at 5082 feet, the well flowed pipe line oil under 230 pounds pressure in 16 minutes.

About 4000 feet south of the same discovery well, Mid-Continent Petroleum Company's Schonvogel 1, Lot 5, encountered the pay low at 5144-61 feet and tested sulphur water. It was awaiting orders to drill to the contract depth.

Esves Oil Company's Spoetzel, 2000-foot north extension to the Wade City field of Jim Wells County, was completed in sand at 4810-14 feet, flowing 110 barrels per day through ⅛-inch choke, pressures being 400 pounds on tubing and 900 pounds on casing.

Humble Oil & Refining Company was ready to test its State 1-D, Tract 30, 1 mile east of the Flour Bluff field and in Lagunda Madre, Nueces County. It cored several sands, mainly at 6779-

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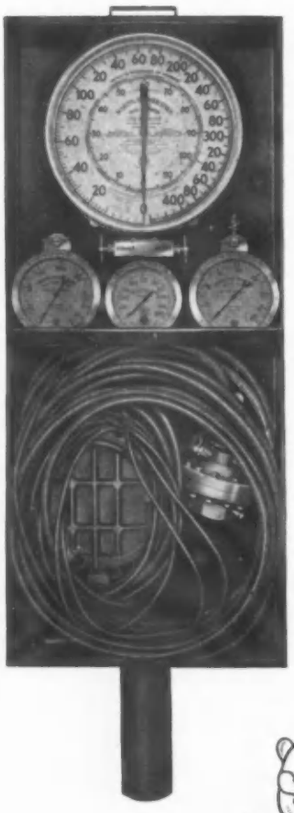
6804 feet and 6849-64 feet. The hole was drilled to 6955 feet and casing was landed 5 feet shallower.

Humble Oil & Refining Company has made application to the War Department for permits to drill 3 wells in Nueces Bay, Nueces County. Two will be imediately northwest of the Corpus Christi Ship Channel and just north of the Saxet Heights field. These locations are in the southwest corner of Tract 723 and southeast corner of Tract 706, respectively. Near the center of the bay and in the northwesterly portion of Tract 706, the company proposes to drill another deep test. It is offset on the west by a proposed project by Stanolind Oil & Gas Company in Tract 746.

This submerged work is holding much interest as present development in the East White Point field, which has been extended into Nueces Bay, indicates a rising of structural conditions to the south.

Having been shut down for many weeks, Coronado Corporation was preparing to resume in K. L. Welder 1, 3 miles southeast of Seadrift in Calhoun County. Hole is bottomed at 10,002 feet.

Tests were still being conducted in Texas Gulf Producing Company's Kester 1, Creanor Survey in Victoria County. It was flowing 40 to 50 barrels of oil and some water through 7/64-inch choke under 875 pounds pressure. The well, producing from perforations 5883-5885 feet, is attempting to open a new pool in the Bloomington prospect.



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Three Mirando Gas Fields Have Wells Showing for Oil

Three new gas fields showing oil producing possibilities have been opened in the Mirando district. In each case, wells are to be drilled on the downdip side of the structure in an effort to further outline the areas.

W. C. McBride's Leal 2, SW NE Section 461, and 8 miles north of Bruni in Webb County, was flowing gas with a small spray of oil from perforations at 2529-30½ feet. The test had encountered the Mirando sand at 2525-39 feet.

Government Wells Oil Company's Lundell 2, Section 364, Duval County, was coring below 1345 feet for the sand found at 1347-59½ feet in Lundell 1. The first test, 660 feet west of the present operation, flowed 13,800,000 cubic feet of gas and sprayed 25 barrels of 22-gravity oil per day through 2-inch tubing, developing 430 pounds rock pressure. The well opened a Cole sand oil field six miles northwest of Freer.

Taylor Refining Company and R. A. Thomaston were still testing Parr 1, Section 298, three miles northwest of the Muralla field. The well was flowing at the rate of 45 barrels of distillate and 15 barrels of salt water per day through ⅛-inch choke and showing in excess of 1000 pounds working pressure. It is producing from perforations at 4683-88 feet, which had been made in the Pettus sand.

Sun Oil Company has not been able to effect a complete shut off in Mauro Garcia 1, Section 407, attempting to open a new Yegua sand oil field 2½ miles east of Fitzsimmons production in Duval County. The well had cored sand at 4901-16 feet and pipe was set at 4959 feet. Perforations were made at 4900-10 feet, salt water breaking in. The pressure indicates that the water is coming from the Pettus zone. Another squeeze job had been made and preparations were underway to retest the zone.

Zavala County Area Again Has Test With Good Oil Showing

Following five discouragements on the T. J. Gilliam Ranch in Zavala County H. F. Wilcox Oil & Gas Company has cored a section of Edwards limestone with excellent oil showing and preparations were being made for completion of what may open a new pool on the southwest extremity of the Balcones Fault zone.

The new well is Gilliam 6, Section 12, ¾ mile west and 660 feet north of the original producer. It cored Edwards limestone at 3918-20 feet and casing was landed at 3919 feet. Plugs were to be drilled and the hole carried ahead with cable tools.

The original Gilliam well was brought in May 29, 1937, from a crevice, apparently in the Georgetown limestone at 3941-47 feet. It flowed 210 barrels of 16.6-gravity oil per hour through open flow lines but water immediately broke in and the hole was abandoned. Offsets also failed to provide production, as did several other tests along trend. These failures dampened an intensive play which had involved many thousands of acres in the region. If the new test does produce, it likely will

bring the area back into its original prominence.

H. F. Wilcox Oil & Gas Company had moved its rotary rig 5½ miles southwest of the above well for an Edwards limestone project to be sunk on a farmout from Humble Oil & Refining Company. The well is to be Charles Voigt 1, ½ mile east of the Leona River and in the James Crabtree Survey No. 30.

Continue Sun Test

Sun Oil Company was continuing its tests in E. Rodriguez 1, 2 miles southwest of the Kelsey field and on trend with production in the Sun area of Starr County. Latest gauge was 12 barrels of fluid with 840,000 cubic feet of gas per day through 3/16-inch choke, with 950 pounds tubing and 1050 pounds casing pressures. The fluid was 30 percent distillate with 70 percent salt water. These tests were at 6420-27 feet where 20 shots were made. The well will be retested through other perforations.

Lehr 1, a Sun Oil Company project 8 miles southwest of the Sun pool, was still cutting out drill pipe which had been stuck at 2893 feet. The hole is bottomed at 5542 feet.

Royal Oil & Gas Company added a small amount of acreage to the northwest side of the Sullivan City sector of the Samfordyce field, Hidalgo County. Chapa 1-A, Share 238, was completed through perforations at 4122-26 feet, where it flowed 120 barrels per day through ⅛-inch choke. Pressures mounted to 700 pounds on tubing and 850 pounds on casing.

Two Wilcox Tests Quit

One Wilcox exploration was brought to a conclusion and a second was awaiting orders in the Lower Gulf Coastal Trend. Sinclair Prairie Oil Company's Callaghan 1, Section 585, Webb County, had been carried to 9501 feet, possibly 5000 feet below the top of the Wilcox zone. It was plugged back and tested at 5900 feet. No details are being released on the well as to markers and showings encountered.

Edwin M. Jones' West 1-A, 2½ miles northwest of George West in Live Oak County, was stopped at 10,893 feet. It had plugged back and tested at several levels between 7600 and 9500 feet, all in the Wilcox, but the result each time was salt water.

Ask 10-Acre Spacing for Volpe Field, Webb County

Standard ten-acre spacing for the Volpe field, Webb County, was requested by Arkansas Fuel Oil Company at a recent Texas Railroad Commission hearing The company asked for straight acreage proration, and a maximum of 20 acres assignable to the final well on a unit.

The proposal was opposed by Harvey & Henderson, owners of several wells in the field, while Magnolia Petroleum Company, the other producer, offered no objection. Arkansas Fuel Oil Company has no production in the field.

Harvey & Henderson did not object to the drilling pattern, on which the field has been developed so far, but protested any change from the present method of allocation, which is on a straight per well basis.

Texas Gulf Coast

Wildcatting Brings Dry Holes In Harris and Matagorda

Joyce Richardson and Christian-Carpenter Drilling Company abandoned A. and H. Marks 1, a 7523-foot hole north of Addicks in the Killam area of Harris County. The well tested gas and salt water at 6858-80 feet in Cockfield and cored a thin oil sand at 7304 feet that electric log did not confirm. Same operator's E. Marks 1, 4½ miles northwest of the failure, in northern Ogburn Survey, was drilling below 3100 feet in shale. Christian-Carpenter Drilling Company contracted for both of these tests, and is also moving in materials for John Mayo et al's Anderson 1, wildcat in Cypress area, Harris County.

W. M. Hobson abandoned Highland Farms 1, wildcat west of Highlands, eastern Harris County, after a test of the Frio at 6500 feet. Thin gas sands in upper Frio were not tested. Hobson is moving the rig to another wildcat, Allen 1, Charleston Gardens Subdivision, Green Survey. The test will be drilled to 7300 feet on seismic closure against a fault which cuts the Aldine prospect and the southern portion of the North Houston-Fairbanks area. Bunte et al's wildcat drilled some time ago on the Aldine prospect cut fault and logged strong shows in the Yegua. Martin Thompson is contractor on the test, which is 1¾ miles east of Kirby Petroleum Company's Hillerbrenner production, now considered an extension of North Houston field. Gulf Oil Corporation, Union Producing Company and Texas Gulf Producing Company have contributed.

Matagorda County wildcatting received a setback as The Texas Company abandoned Taylor 1, Sugar Valley prospect near Van Vleck, at 9925 feet with no shows reported. Information on markers was withheld. Tide Water Associated Oil Company abandoned Armstrong 1, east of Boling and southwest of Needville, in heaving shale at 8593 feet. The wildcat logged slight oil shows and a gas zone at 7788 feet which almost blew the well out.

In the Wadsworth area, Matagorda County, Stanolind Oil & Gas Company's General American Life 1, was drilling below 10,077 feet in sandy shale. The Texas Company was drilling below 5160 feet in shale in Pierce 1, wildcat in the Blessing area, H. & G. N. Survey No. 1. W. L. Goldston's Kulcak 1, Needville area wildcat, a mile west of the same operator's recent 5326-foot failure, spudded and set surface casing. Deep Rock Petroleum Company's Petrucha 1, J. Dempsey Survey wildcat, was drilling below 10,300 feet. Marginula was topped at 8965 feet and Nodosaria at 10,302 feet. Barnsdall Oil Company was preparing to core Stoddard 1, wildcat on the flank of Buckeye Dome, Matagorda County, at 9910 feet. Contract depth is 11,000 feet.

Glen McCarthy's Houston Farm Development Company 2, 3000 feet north of the discovery at Chocolate Bayou, Brazoria County, was squeezing cement through perforations at 10,124-31 feet, after test yielded a salt water flow.

Brennan Dome Wilcox Test

Standard Oil Company of Kansas' Kamas 1, was a Wilcox location on the flank of Brenham Dome, Washington County, 1½ miles southeast of Wesley. Projected to 6000 feet, the test will be drilled on acreage procured from C. H. Lane in the S. M. Williams Survey. Production on the dome is from Miocene at 190-482 feet and at 1500 feet. Previous attempts to the deep Sparta have failed. Geologists believe a deep synclinal rim acts as a barrier to accumulation low on the flanks of the dome. The Kamas test will provide information on the theory in general, and the Wilcox possibilities in the immediate area west of existing Wilcox production in the county. Continental Oil Company and Freeport Sulphur Company have run torsion balance and gravimeter surveys on the dome.

H. C. Cockburn is planning location of a 10,000-foot Wilcox test north of Leveridge Estate 1, discovery of a gas-distillate field at East Bernard, Wharton County. Leveridge Estate 1 is now making small quantities of 55-gravity distillate by heads and an estimated 1,000,000 cubic feet of gas daily through 7/16-inch bottom-hole choke. Casing pressure is 3450 pounds, and tubing pressure has been reduced to 1000 pounds by control valves. A market has been found for the gas and the operator will continue Leveridge 1 as a gas well and a fuel supply for development of the field. In announcing the confirmation test, which will be on a 40-acre pattern, Cockburn revealed hope of oil or distillate production in a lower sand, which in normal sequence of deposition, would underly the shale section in the bottom of Leveridge 1, near 8160 feet. Discovery production is from broken sands at 8074-89 feet in the Cook Mountain member of the Claiborne. The structure was discovered by Sterling Oil & Refining Company, who drilled one failure, and was later reworked by reflection seismograph. The field is the second 1940 strike in Wharton County, and also the second for the entire Texas Gulf Coast Sector.

Fishers Reef, Galveston Bay prospect, has not yet been established as the third 1940 field for the district. Standard Oil Company of Texas and Salt Dome Oil Corporation's State 61, Tract 54, wildcat 4 miles off the Chambers County shore, 7 miles northeast of Cedar Point and 11 miles southwest of Anahuac, prepared to test perforations at 9003-06 feet. Previous tests on thin sand sections between 8992 and 9028 feet have recovered salt water, although the well logged strong oil shows while drilling. If tests on the 9003-06-foot section are negative, the next attempt probably will be made at 8550 feet. Total depth is 9538 feet, with 7-inch set at 9128 feet. Salt water sands were cored at 7597-7610 feet, and oil sand was sampled in the Hackberry zone of the Lower Frio in the last 30 feet of hole. Sidewall samples and electric logs gave favorable indications in a number of zones at 8992-9028 feet, showing from 2 to 8 percent by volume gas and oil. Discorbis small was found at 6550 feet, Discorbis large at 6730 feet, Heterostegina at 6940 feet, Marginulina round at 7150 feet, Marginulina flat at 7210 feet, and Frio at 7590 feet.

Hope for a south extension to Hilje field, Wharton County, was lowered as Titanic Oil Company's Carlson 1 failed

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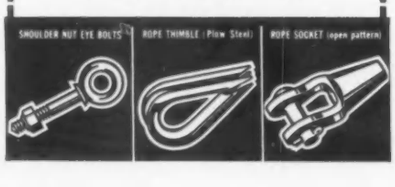

to produce after setting casing at 5850 feet and perforating near bottom to test a slight show of oil which was drowned out by brackish water. This semi-wildcat was drilled by S. G. Harrison to 6510 feet and reworked by Titanic Oil Company, who have exhibited confidence in the area by announcing location for a south offset to Carlson 1. The location, Kountze 1, is 933 feet south of Carlson 1, in Section 3, Morris & Cummings Survey.

Stanolind Oil & Gas Company will continue to test Garrow 1, Martha field, Liberty County. Possible production from a new horizon did not materialize as drill-stem test at perforations 8512-20 feet recovered salt water. The hole, bottomed at 9820 feet, was first tested at 9142 feet without success. Perforations at 9142-52 feet were squeezed after swabbing in this zone also failed. Several other sand levels remain to be tested. The well bottoms at 9825 feet, with 5½-inch casing cemented at 9208 feet. Electric log showed broken sand and shale sections with probable oil and gas shows at 8515-18 feet, 8593-8610 feet, and 9142-65 feet.

Attempts to establish Kirby Petroleum Company Harbaugh 1, southeast Hillerbrenner outpost, as a producer are interesting in the light of the popular conception that Hillerbrenner and North Houston are producing from a common source. Operators have run electric survey at 6842 feet, and pipe has been set to attempt completion in Fairbanks sand.

Gulf Oil Corporation has extended flank production at Fannett Dome, Jefferson County, northeast by completing Bordages 4 for 820 barrels daily through ¼-inch choke. Production is from sand at 8220-36 feet, with 1450 pounds tubing pressure and 1455 pounds casing pressure.

In San Jacinto County, Harrison & Abercrombie's Dixon 1, wildcat south of Sheperd in the eastern part of the county, was drilling at 7051 feet in shale and lime. No markers were reported. Shell Oil Company's Coline Oil Company 1, near Cold Springs, was reported in or near the Wilcox at 7600 feet.

A Grimes County wildcat soon to start drilling is Wallace & Jordan's Dodd 1, east of Singleton in Cyrus Campbell Survey. It will be drilled on surface indications of considerable closure against a fault. Same operators abandoned a test to the northeast at 3520 feet, where it was still above Wilcox.

Womack & Sturm will drill a 6500-foot wildcat projected to the Georgetown lime near the northwest city limits of Pineland, Sabine County. Houston Oil Company of Texas, Magnolia Petroleum Company and Sun Oil Company are contributing to the test, for which Louis Franklin has contracted.

Stanolind Oil & Gas Company's Hulen 1, Galveston County wildcat southwest of Alta Loma in the Asa Brigham Survey, was nearing Frio with bit below 8723 feet.

Hillerbrenner Hearing

The Hillerbrenner area in Harris County appears to be an extension of the North Houston field rather than a separate field, according to testimony presented by operators at a hearing before the Texas Railroad Commission last week. Operators requested that North Houston rules be amended, rather than new rules issued. The principal request, which was made by Kirby Petroleum Company, P. R. Rutherford and Mortex Oil Company, was that the field be prorated on acreage alone, instead of acreage and per well, as is in effect now.

Operators asked also for standard 20-acre spacing with 20-acre proration units and an additional 10 acres to be assigned to the final well on any lease. They also requested that the commission include in its order a clause requiring an effort to pool tracts smaller than 20 acres, in order that a full proration unit might be obtained before any well is drilled. Production in the area, according to evidence presented by Walter Spears of Union Producing Company, is from four sands found at 6800, 6900, 7000 and 7200 feet. Pressures in the area are normal.

Texas Permits

The Texas Railroad Commission last week approved permits for drilling 189 new wells, 129 less than were allowed the week before.

Four permits were granted in the East Texas field, including 2 in Gregg and 2 in Rusk County. From the remaining portion of the East Central Texas territory, 6 locations were reported.

West Texas led the State with 46 permits, including 17 in Ector County, while operators in West Central Texas listed 18 new locations. Permits for drilling 39 more wells in Southwest Texas were approved by the commission, and Gulf Coast operators were permitted to drill 26.

From the Panhandle, 19 locations were reported, including 11 in Hutchinson County, while North Texas operators were granted permits for 31 wells.

Ask Separate Designation For Deep K-M-A Production

Fain-McGaha Oil Corporation has requested that a portion of the K-M-A field be separated and called the Ellenberger field. At a hearing before the Texas Railroad Commission last week, the company asked that the area around its Griffin B-16, Wichita County, be designated in this manner.

The company also asked that the allowable for the well be increased from 37 to 100 barrels daily. Completed April 7, it is producing from a dolomitic limestone identified as Ellenberger at 4352-4389 feet and had an initial potential of 339 barrels in 3 hours through ½-inch choke. Tests to the north, east and west have been dry.

Top of the Ellenberger is found 610 feet below the regular K-M-A pay. The oil is about 42-gravity in both horizons.

Oklahoma Utilities Contracts For 16-Mile Gas Line

Oklahoma Utilities shortly will begin construction on a 16-mile natural gas pipe line from Arlington field, 10 miles south of Stroud, Oklahoma, to tie in with their system in the Bigpond area. Mike Foreman has contract for building the line. Shell Oil Company and Allied Materials Corporation will furnish natural gas.

Louisiana Gulf Coast

Shallow Horizon Opened at Fausse Point, Iberia Parish

Shallow production at Fausse Point Dome, Iberia Parish, was obtained when Sun Oil Company's Kling & Walet 1, Section 26-11s-8w, flowed 62 barrels of 23.5-gravity oil daily through 5/32-inch choke from 136 perforations in cap rock and broken lime at 1105-50 feet. Bottom is at 1218 feet. Casing pressure was 100 pounds, and tubing pressure 90 pounds. Five-inch casing was set at 1151 feet. Oil shows were found in sands at 780-95 feet and at 933-35 feet. This well is on top of the salt dome, while other production is obtained from flanks at 9000 feet.

Republic Production Company was fishing for swab in Lutcher Moore Lumber Company 11, deep northeast outpost to Bancroft field, Beauregard Parish. This semi-wildcat, which may open a new productive strata for the field, flowed 10 stands of oil and salt water on a 15-minute drill-stem test at 7518-23 feet where 18 perforations were made. Operators then attempted to swab, but lost the tool. Seven-inch casing has been set on bottom, 7525 feet.

On latest gauge, The California Company's Delta Minerals 1, discovery for the Lake Salvador field, Plaquemines Parish, tested 240 barrels of salt water and 60 barrels of oil in 25 minutes. Operators squeezed perforations at 9980 feet and may make another squeeze at 9963-74 feet. The company staked Delta Minerals 1, Lease 1, Section 2-15s-24e, in the recently opened Belle Chasse field of the same parish.

Point Au Fer

Barnsdall Oil Company's Nelson Development Company 1, closely watched outpost in Point Au Fer field, Terrebonne Parish, was waiting on cement to continue tests on a series of oil sands logged at new levels for the field. Fifteen perforations at 7428-40 feet were squeezed after formation tester showed salt water. Oil sands have been logged at 7020-27 feet, 7034-40 feet (4 ohms resistivity), and 7418-30 feet (7 ohms resistivity).

Venice field, Plaquemines Parish, may be extended southeast by Tide Water Associated Oil Company's Johnson 1, in which casing has been set on bottom at 8303 feet. Perforation points and method of test were not announced.

H. M. Naylor's Acadia Development Corporation 1, Section 12-10s-2w, West Mermentau prospect test, is at 10,003 feet in sandy shale. Unconfirmed reports say that this tight wildcat cored sands with gas odor at 9113-23 feet, 9327-35 feet, 9700-15 feet, and 9765-75 feet, and set 7-inch casing at 10,003 feet. It is now waiting on cement.

The California Company's Zeringue Community 4 was making production test in deflected hole at 8278-81 feet, where liner has been set. Electric log was run to 8278 feet, and hole was cored to 8291 feet. The well was first deflected north and east to 8329 feet, and redeflected when tests in the first hole failed.

The California Company has set surface pipe at 2011 feet in Louisiana Truck & Orange Land Company 1, wildcat east of Barataria, Jefferson Parish.

The Texas Company's State 2, second test in the new West Cote Blanche field, St. Mary Parish, topped sand showing oil at 3060 feet, and was coring in sandy shale showing oil at 3066 feet. Two St. Mary Parish wildcats were abandoned: Herton Oil Company left Gousoulin 1, Jeanerette area, Section 68-13s-8e, at 3030 feet in shale. In Charenton area, Morgan City Oil Company abandoned Sugars 1, Section 33-13s-9e, at 3012 feet in shale. On the Belle Isle prospect, Sun Oil Company's Belle Isle Corporation 1, Section 6-18s-11e, was drilling in shale at 2075 feet after setting 13⅜-inch casing at 2044 feet.

Three Lafourche Parish wildcats were active: Cockrell's Lafourche Land Company 1, Section 32-18s-22e, cleaned hole at 2952 feet and was mixing mud; Gulf Refining Company's Bowie Lumber Company B-1, Section 69-15s-18e, long extension attempt in the Lake Boeuf field, was drilling at 12,086 feet, and Humble Oil & Refining Company's Caldwell Sugars 1, 115-14s-15e, North Thibodeaux prospect, was drilling at 11,632 feet in sand.

Vendome Petroleum Company was drilling below 9307 feet in Whitney-Coulon 1, Section 15-15s-23e, wildcat in Crown Point area, Jefferson Parish.

Other deep wildcats were in Acadia Parish, where Humble Oil & Refining Company's Atkinson 1, Section 26-10s-1e, was at 6205 feet; in Ascension Parish, where Shell Oil Company's Southwood Plant 1, Section 20-9s-2e, St. Gabriel area, was at 9928 feet; in Cameron Parish, where Phillips Petroleum Company's Miami Corporation 1, Grand Chenier prospect, was shut down for repairs at 10,313 feet, and at Calcasieu Lake, also in Cameron Parish, where Superior Oil Company's State 2, 14s-9w, was in salt at 7164 feet.

Ask 40-acre Rule for Louisiana's Sugar Creek Field

A 40-acre spacing rule for the Sugar Creek field, Claiborne Parish, was asked of the Louisiana Conservation Commission at a hearing held last week in New Orleans. Petitioners were Union Producing Company, Standard Oil Company of Louisiana, and Sugar Creek Syndicate, which brought in the field several years ago and unitized their holdings in the first such plan to be followed in North Louisiana. Another operator recently completed an oil well on a 7-acre tract on the north flank of the field, resulting in the petition for a spacing rule. Attorneys were given until May 17 to file briefs on the proposal.

The commission deferred until June 7 hearing on a land-owner request for a new proration order for the Cotton Valley field, Webster Parish. Distillate wells in the lower Marine are classed as gassers and a gas allowable has been set, but Travis Peak wells at 5600-6000 feet are oil producers, as are flank wells in the Lower Marine.

North Louisiana

Four Shallow Wilcox Wells Completed in New Olla Area

Four new oil wells in the Wilcox shallow horizon were completed last week in the new Olla field, LaSalle Parish, which, aside from the old shallow Pine Island field, Caddo Parish, is North Louisiana's most active district.

One of the wells was completed making 25 percent salt water in the 300 barrels daily of fluid being produced. This is Placid Oil Company's (H. L. Hunt) Louisiana Central Lumber Company 13, NE SE 13-10n-2e, which drilled to 2419 feet. Two other operations in this field tested as the week closed.

Along the Angelina-Caldwell Flexure, H. L. Hunt made location for a shallow Wilcox wildcat test in Tensas Parish, Chicago Mill & Lumber Company 1, C NW NW 30-13n-10e.

Atlantic Refining Company abandoned a wildcat in LaSalle Parish, Goodpine 2, located 75 feet north of C SW NE 28-9n-2e.

Possibility of a new producing level in the Converse field was given in completion of Odell Hinson and Associates' Frost Lumber Company 1, SE SE 22-9n-13w, completed in the Paluxy at 3228 feet, making 10 barrels of oil daily and 125 barrels of salt water. With elevation of 267 feet this test logged Saratoga chalk from 1648-1718 feet; the Annona chalk from 1904-2114 feet and topped Austin chalk at 2921 feet. It logged Eagle Ford shale from 3017 to 3145 feet where it went into a lime formation. An oil showing was logged at 3185-96 feet. The only other Paluxy sand production near Converse, Sabine Parish, is a recently completed well in Section 36-9n-14w.

There were 15 completions in North Louisiana during the week including 10 oil wells, 3 gas wells, and 2 failures.

Tide Water Associated Oil Company last week acquired 1600 acres of land and 14 marginal shallow oil wells in the Bellevue field, 19n-11w, Bossier Parish, from the Shreveport Commercial National Bank and Lodwick Lumber Company. The wells have combined daily average yield of about 75 barrels. The company plans to increase hydrostatic pressure of the field by injecting water into the producing sand, the Nacatoch, ranging in depth from 275 to 450 feet. The field was discovered in 1921 and was abandoned for several months in

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1931 when the price of oil dropped. The oil corresponds to heavy Gulf Coastal crude. The structure is a truncated dome.

Louisiana Permits

Forty-three drilling permits were issued last week by the Louisiana Conservation Commission, of which 12 were in North Louisiana divided among the following parishes: Bienville, 1; Caddo, 5; Franklin, 1; Grant, 1; LaSalle, 3; and Union, 1. The 31 in South Louisiana were in the following parishes: Acadia, 3; Assumption, 1; Avoyelles, 4; Calcasieu, 2; Cameron, 2; Evangeline, 2; Iberia, 1; Iberville, 1; Jefferson, 3; Jefferson Davis, 1; La Fourche, 4; Plaquemines, 3; St. Mary, 2; St. Martin, 1; and Terrebonne, 1.

Atlanta's Thirteenth Oil Well Is One Location Extension

The Atlanta field, Columbia County, discovered a year ago last December and producing from the Smackover lime, added its thirteenth oil well last week when J. K. Mahoney's Riley 3, SW SE 11-18-19, was completed at 8225 feet, flowing 11 barrels per hour through 11/64-inch tubing choke. Casing and tubing pressure were both 1800 pounds. Porosity was topped at 8164 feet and casing was perforated with 23 shots from 8170-74 feet, 2½-inch tubing was set at 8180 feet. This well, one location outside production, had cored lime with a salty taste at 8195-8205 feet.

This well offsets the recently completed Riley 1 by the same operator which extended production over one mile east. Three other tests are drilling in the field.

In the Magnolia field, Columbia County, H. L. Hunt's Garner 1, was topping Buckner at 7448 feet, cored 29 feet of porosity to 7558 feet. Four other tests are drilling at Magnolia which also has one other active location. The Dorcheat field, also in Columbia County, has one active location, which is rigging.

Standard Oil Company of Louisiana's Sturgis 1, NE SW 1-17-27, deep wildcat test in Miller County, which topped Buckner anhydrite at 8948 feet still had not reached the Smackover lime and drilled at 9064 feet. Atlantic Refining Company's Bodcaw Lumber Company 1, C NE SW 29-17-23, LaFayette County wildcat, drilled at 8202 feet. Also in Miller County, K. E. Jennings and associates' Wood 1, NW SE 33-18-28, was shut down at 3702 feet without having logged any showings.

Arkansas Permits

Five drilling permits were authorized last week by the Arkansas Oil and Gas Commission, as follows: Columbia County—Tide Water Associated - Seaboard Oil Company's C. H. Murphy 2, C SE NE 14-18-19; Mid-Continent Petroleum Corporation's Jim Keith 1, C SW NW 16-18-22; LaFayette County—East Texas Refining Company and Erwin & Leach's Eliza P. Davis 2, SE NW NE 19-16-23; Miller County—F. W. Burford's J. E. Ritchie 1, C SW SE 7-20-27; Union County—J. H. Coker's C. L. Smith Estate 1, SW NE NW 32-17-14.

Mississippi

Tinsley Dome Yield Gains With Additional Wells

The fifty-second oil well for the Tinsley Dome field of Yazoo County was indicated last week, as this area was producing an average of 7500 barrels daily. Locations were made for 4 wildcats, while 2 wildcats were abandoned.

Holmes County, which already had 5 active operations, had 2 of the new wildcat locations. Exchange Oil Company located W. M. Thurmond 1, SE 21-15n-3e, letting contract to Parker Drilling Company, Tulsa. A. H. Rowan, Fort Worth, started his second wildcat in the county, J. W. Eakin 1, C NW SE 20-14n-1e, letting contract to Prince Brothers Drilling Company, Electra, Texas.

In Monroe County, Willmut Oil & Gas Company (Will Tatum et al), Jackson, located Rye 1, SW NE 22-15s-17w. In Washington County, Charles Perkins, Glen Allen, Mississippi, associated with Allen Robinson, will drill General American Farms 1, SE 9-14n-8w. It is on an 18,000-acre block.

Reid Clark et al abandoned L. B. Allen 1, SW SW 4-13n-4w, Humphreys County, at 5057 feet after logging igneous material from 3810 to 4160 feet. Elevation was 98 feet.

Ralph Johnston has taken a shooting option on 120,000 acres of Denkman Lumber Company land in Hinds and Madison counties, starting 4 miles north of Jackson and extending 75 miles north, paralleling Pearl River.

Leake County is seeing considerable leasing activity. N. V. Leonard continued to add to a 15,000-acre block centering around Section 15-9n-6e. E. W. Hamilton has filed leases covering several thousand acres centering around Section 11-10n-6e. B. B. Jones is expected to start operations soon on a 75,000-acre block in the south and east parts of the county. Jones also has a large block in north half of 14n-9e, and the south half of 14n-9e, Attala County. J. E. Thrift, Jr., Houston, has acquired an undivided fourth mineral rights on all Bond Lumber Company land in Forest, Stone and Perry counties. Humble Oil & Refining Company took a 90-day option on 50,000 acres of Dantzler Lumber Company land in George, Harrison, Jackson and Stone counties. The Carter Oil Company was leasing in 10n-2e, Jasper County. Hunter Jones et al were clearing title on a block near Charleston, Tallahatchie County.

Union Producing Company was drilling below 9650 feet in McCorvey 1, SE SW 20-9n-2w, Choctaw County, Alabama. O. L. Hasty is leasing in Mobile County, Alabama.

One of the largest seismic structures ever found in Mississippi is reported in the vicinity of Maxie, Forrest County, where a crew of Seismic Explorations, Inc., has been detailing for the past 10 weeks. A lease block of 80,000 acres has been completed by R. B. Swaizey and B. C. Batson for Fohs Oil Company, and the company has purchased mineral rights to 5000 acres. Other companies are reported to have been in the area. Informed observers believe the structure will be tested immediately.

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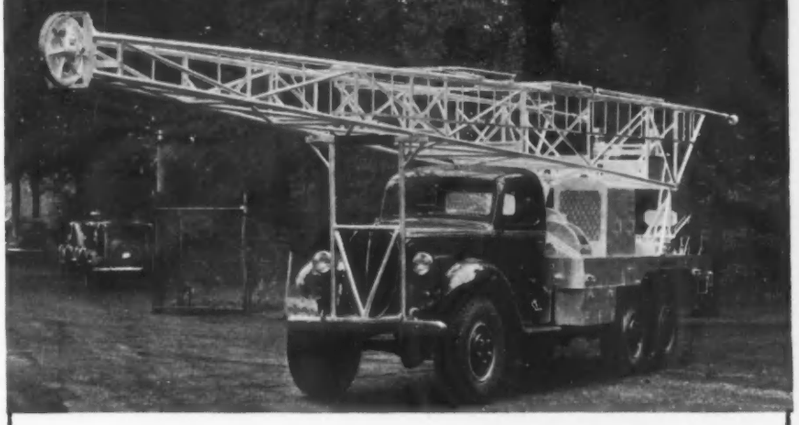

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Rocky Mountain States

Cole Creek Shannon Sand Discovery Pumps 350 Barrels

General Petroleum Corporation's Shannon sand discovery in the Cole Creek field, 13 miles northeast of Casper, was pumping 350 barrels of 35-gravity light green oil daily, and was still on production test. Official figures of production capacity have not been released, but the 350 barrels daily is said not to approach the well's capacity from the Shannon. The well is Government 21-1, CNW NW NW 21-35n-77w, and production is from 4530-70 feet after plugging back from oil and water of nominal quantities in the Dakota-Lakota at 8050 feet. It is the largest Shannon completion in the division, and it is estimated that some 30 to 40 wells will be drilled in the field as a result of the new sand strike. It also indicates a leasing and exploration campaign on possible structures discovered by geophysical methods in the Powder River Basin, where the Shannon is a much shallower oil objective than the deeper sands of the Cretaceous. Heretofore, little, if any, importance was attached to the Shannon as an oil objective.

Three new starts were reported from the Lance Creek field. Continental Oil Company located 2 wells, Tom Bell 19, CNW NE SE 33-36n-65w, which was waiting on rotary, and Dielman 7-A, NW NE NW 8-35n-65w, which was building derrick foundations. A. B. Cobb was spudding at 325 feet in Novick 6, SE NE NW 6-35n-65w, on the west side of the field.

A near completion which promises an excellent producer was Yale Petroleum Corporation's Frisby 2, CNW SE NW 32-52n-100w, in the Oregon Basin field, Park County, northern Wyoming, which flowed 450 barrels in the first 6 hours from the Embar at 3472 feet. It was acidized with 2000 gallons. The company has spotted location for 2 more wells to drill immediately.

Rated at better than 200 barrels daily from oil rising in the hole, Marvel Oil Company's Government 1-H, CEL NE SE 28-27n-113w, in the north extension area of the La Barge field, Sublette County, southwestern Wyoming, was shut down waiting on cement around 8-inch casing. Total depth is 923 feet. North LaBarge Oil Company's Government 3, SE SE NE 28-27n-113w, was drilling below 200 feet. The Texas Company's Government 1-G, W SW NW 27-27n-113w, was testing oil shows after cementing 8⅝-inch casing at 915 feet.

A new start in the Frannie field, Park County, northwestern Wyoming, was V. M. Kirk's Government 3, NW NW SW 24-58n-98w, grading location and moving in rotary. Minnelusa Oil Corporation's Roney 1, SW SW NW 24-58n-98w, was drilling below 2720 feet, while Continental Oil Company's Prigge 1, SE SE SE 33-9s-25e, on the Carbon County, Montana, side of the field, was still a location.

Sinclair-Wyoming Oil Company's Lost Soldier 93-A, SW NW NW 11-26n-90w, Lost Soldier field, Sweetwater County, southwestern Wyoming, had reached objective, the Sundance, at 1972 feet, and was cementing 5½-inch casing. Hole bottomed at 1976 feet.

Southeast extension test and scheduled for exploration of the untested deep Tensleep in the Middle Baxter Basin field, Sweetwater County, Red Desert Corporation's Edith Aspden 1, CNW SW NW 34-18n-103w, was building rig.

Michigan

Midland County Deep Test Nearing Sylvania Objective

C. L. Maguire, Inc.'s Clark 1, Section 32-16n-2w, Midland County wildcat drilling at 4860 feet, was believed within 100 to 150 feet of its Sylvania sand objective. Water zones which started to come in below 4735 feet by this week had raised water level to within 100 feet of top, and had reduced drilling time to a few feet per hour. There was no casing in the hole below 1700 feet.

Clark 1 already has established a Michigan depth record for the past 22 months. Only three tests were carried below 4400 feet in 1939, and the deepest of the three was abandoned at 4696 feet. For 1445 completions in the state last year, the average per well depth was only 1850 feet due to the heavy drilling concentration in Southwest Michigan where 1200-foot wells are commonplace. Although the test has bettered the 22-month depth mark, there is little possibility that it will break or approach the all-time record of 6674 feet set in 1935. Seven other tests have been carried to depths of 5000 to 6000 feet.

Carter Lease, Inc.'s Fee 6, Section 18-13n-1w, Porter Township, Midland County, another projected Sylvania sand test in the basin, was drilling again last week at 4390 feet.

First on structure Dundee-Monroe test for the Walker-Tallmadge field, Kent County, is scheduled to be made this summer. Swanson Consolidated Oil Company announced intentions to carry the 1775-foot LaQuea 1, Section 32-7n-12w, Traverse lime producer, another 300 to 500 feet to test Dundee and Monroe.

The Old Muskegon field produced both from the Traverse, Dundee and Upper Monroe. However, so far in the three-year shallow boom centering in Allegan, Kent, Ottawa and Van Buren counties, nothing has been developed below the shallow Traverse beds.

Hopes that had been raised higher than for any previous Basin wildcat for several months were dashed when Rowmor and McClanahan Oil Company's Quist 1, Section 22-21n-7w, Missaukee County, drilled Monroe lime dry. It topped Monroe at 3937 feet and was in black water at 3944 feet. It will be plugged. Quist 1 was of unusual significance as more than 65 core holes had been drilled to the Marshall-Red Rock by The Pure Oil Company, and presumably the Quist 1 was located on the strength of the core-drilling campaign. The test stood up on the Marshall-Red, but flattened out on the Traverse and Monroe to apparently discount core testing to the Marshall-Red beds as a positive lower bed structure indicator.

The Pure Oil Company and Gulf Refining Company have several thousand acres under lease in the district of Quist 1 (a test toward which both com-

panies made substantial dry-hole contributions), and in all probability more deep wells will be drilled before leases are canceled.

Strom & Shiffmans' Lund 1, Section 15-11n-16w, Muskegon County, became the sixth wildcat to produce oil or gas this year, but there appeared to be no immediate indication that it would attract more than a cautious field defining campaign. Lund 1 originally was carried to 2280 feet through the Dundee, and then plugged back to 1890 feet and acidized to a Traverse lime saturation zone. It rated 18 barrels per day after acid. It is five miles north of the old Muskegon field.

California

Arvin Area Wildcat, Kern County, Preparing to Test

Most intensive drilling program of any single company in California is that of Richfield Oil Corporation at Coles Levee. The company has 19 projects under way in that field currently out of 23 for all companies in the area. Part of the work has been let to drilling contractors. Most extensive drilling program in the San Joaquin Valley district, however, is at Coalinga Northeast and Coalinga Eocene pools where 34 projects are under way. Of these, Standard Oil Company of California has 10.

Lindley C. Morton was preparing to test showings encountered in the Chanac between 6540 and 6660 feet in Jewett 1, wildcat in Section 23-31-29, Arvin area, Kern County. Test was bottomed in hard shale at 6765 feet, and failed to encounter any showings of importance in the lower portion of the hole. Top of best oil sand showing was at 6575 feet. Production test will be made as soon as casing can be set.

Union Oil Company abandoned Pezzoni 1, wildcat in Section 33-10-35, Betteravia district, Santa Barbara County, after drilling to 2242 feet. Sisquoc was cored at about 1750 feet. Rig will be skidded north one location for a second test.

Barnsdall Oil Company completed Rancho San Francisco 10, in the Newhall-Potrero field, Section 26-4-17, flowing 250 barrels daily of 36-gravity oil through a 10/64-inch bean. Test was bottomed at 7240 feet. The company is keeping one string of tools active in this field.

Tide Water Associated Oil Company completed Porter 13, in the Aliso Canyon field, flowing at the rate of 1759 barrels daily, 24-hour gauge, 23.3-gravity oil cutting 1.5 percent drilling fluid. Gas output was estimated at 361,000 cubic feet. Completion is an offset to Porter 12, deep test drilled recently which resulted in discovery of the deep gas zone. Porter 13 was finished at 5225 feet and is producing from the Porter One zone.

In the South Rosecrans area of Los Angeles County, Southern California Petroleum Company completed Slabaugh 2, bottomed at 7599 feet, flowing 250 barrels daily of 32-gravity oil cutting 15 percent mud through a 40/64-inch bean. In this same area, Chicago Oil Company was deepening Founders 1 from 7097 feet, and spot coring. Between 6800 and 6850 feet, three streaks of oil sand were encountered.

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UNITED STATES WELL COMPLETIONS

Arkansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Columbia County (Atlanta)—		
G. H. Vaughn, Mahoney 1, 13-18-19	215	8237
J. K. Mahoney, Riley 3, 11-18-19	264	8225

California

Company, Well and Location	Init. Prod. Bbls.	Depth
Fresno County (East Coalinga)—		
Robert S. Lytle, No. 35-18F	2735	7741
Kern County (Cole's Levee)—		
Richfield, KCL-A38-28	1200	9174
Kern County (Kern Front)—		
McDonald & Dearin, No. 5	150	1788
Kern County (Kern River)—		
Dick & Dore Oil Co., No. 30	5	588
No. 32	5	648
Richards Oil Co., Davis 13	30	1022
Kern County (McKittrick Area)—		
Franco Western Oil Co., No. 18	280	2237
Kings County (Kettleman Hills)—		
Standard, No. 41-35Q	761	8305
Los Angeles County (Aliso Canyon)—		
Tide Water, Porter 13	1759	5225
Los Angeles County (Long Beach)—		
Convoy Pet. Co., No. 1A	100	3645
Los Angeles County (Montebello)—		
Kern Oil Co., Monterey 30	542	7820
Monterey 34	1500	7890
J. E. Mabee Co., Monterey 43	625	7888
United Montebello Oil Co., No. 3	47	7942
Los Angeles County (Rosecrans-Athens)—		
Apex Pet. Corp., Hatfield 1	60	9214
Union Oil, Rosecrans 40	68	8118
Los Angeles County (Wilmington)—		
General Pet. Corp., H. C. 22	125	4100
Hancock Oil Co., Harbor A-27	1269	4050
Royalty Service Corp., Santa Fe B-4	420	3620
Union Pacific RR Co., UP 136	995	3940
UP E-23	85	3675
UPPD 6	486	2704
San Luis Obispo County (Arroyo Grande Area)—		
Holly Oil Co., Meherin 1	*	4072
Solano County (Rio Vista)—		
Amerada Pet. Corp., Carpenter 1	*	4354
Ventura County (Shiells Canyon Area)—		
Santa Clara Pet. Co., Calumet 15	100	3224

Illinois

Company, Well and Location	Init. Prod. Bbls.	Depth
Clinton County—		
Algona, Marshall 3, sw ne se sw 12-1n-1w	720	2934
Gulf, Beuhler 14, cw½ nw ne 12-1n-1w	1080	2918
Hawley Oil Co., White 2, nw se se sw 12-1n-1w	913	2937
Louis Lilly, Penn 4, nw ne se se 12-1n-1w	144	2958
Scott-Carey, Ford 1, lot 16, blk 8, 12-1n-1w	124	2923
Starr 1, lot 11, blk 3, 12-1n-1w	250	2912
Smokey Oil Co., Allison 3, ne se ne sw 12-1n-1w	1641	2921
Yemm, Allison 3, ne c nw se 12-1n-1w	769	2918
Blowers, City Park 9, nec nw 13-1n-1w	200	2942
J. D. Etheridge, Leiber 1, ne c se ne 13-1n-1w	110	2920
Illinois-Midcontinent, Hefter Hrs. 3, nec sw ne 13-1n-1w	205	2921
The Petroleum Corp., Kaelin 1, lot 17, blk 1, 13-1n-1w	192	2942
Max Pray, Storer 3, nwc ne ne 13-1n-1w	415	2941
Tom Thompson et al, Eaton 1, sw nw sw 6-2n-3w	*	587
L. V. Garnier, Tony 1, cw½ nw ne 30-3n-2w	*	2695
Edwards County—		
Superior, Woods 2, nw sw nw 19-2s-11e	314	2380
R. Ryan, Selgart 1, nw c se ne 3-3s-14w	*	2589
Sun, Greathouse 3, ne se nw 4-5s-14w	231	2901
Fayette County—		
Texas, Griffity 8, ne nw se 25-6n-2e	180	1610
Etheridge 2, ne ne ne 6-6n-3e	*	1608
Texas, Wright 5, sw se nw 31-6n-3e	203	1614
Zephyr Dr. Co., Smith 5, ne sw sw 31-6n-3e	300	1604
Carter, Durbin 21, nw se sw 4-7n-3e	86	1578
Reed 6, se se se 11-8n-3e	618	1469
Grubaugh 1, nw ne se 23-8n-3e	192	1539
Johnson, Arnold 7, nw se nw 19-7n-3e	25	1570
Mabee Dr. Co., Kepp 3, sw se sw 31-8n-3e	3	1551
Kepp 5, se sw sw sw 31-8n-3e	5	1587
Minerva, Tish 11, nw nw se 33-8n-3e	120	1548
Tish 13, ne nw se 33-8n-3e	70	1526
Hamilton County—		
Kingwood, Wilson 2, sw c nw se 6-6s-7e	221	2687
Marion County—		
Texas Co., Bundy 2, e½ sw ne 6-1n-2e	371	1842
Hill 1, sec nw sw 6-1n-2e	175	2089
Carr 6, cs½ ne ne 7-1n-2e	630	2017
Sweney 9, nw ne nw 20-2n-2e	60	1863
Chapman 21, ne nw sw 28-2n-2e	536	3475
Stroup 16, sw se sw se 30-2n-2e	2343	3414
Wayman 29, sw se ne ne 31-2n-2e	1440	3350
Wayman 30, nw ne nw ne 31-2n-2e	8031	3392
Farthing 11, nw se nw se 32-2n-2e	899	3454
Friesner 22, sw c ne nw 32-2n-2e	940	3370
Friesner 23, ne nw se nw 32-2n-2e	1260	3380
Friesner 24, se sw se nw 32-2n-2e	1630	3382
Miller 13, nw se ne se 32-2n-2e	1083	3485
Richardson 15, nw c sw nw 32-2n-2e	1300	3350
McCoy 9, nw sw ne nw 33-2n-2e	1193	3500
Sands 10, ne sw nw sw 33-2n-2e	1275	3530
Ohio, Young 46, sw se ne se 17-2n-2e	96	2007
Young 24, se ne se nw 20-2n-2e	1554	3470
Young Hrs. 44, sec sw sw 20-2n-2e	1290	3500
Young Hrs. 45, se ne nw sw 20-2n-2e	850	3498
Young 23, nw c ne nw 29-2n-2e	1300	3463
Magnolia, Shanafelt 33, se nw nw 21-2n-2e	930	3507
Young 106, se sw sw 21-2n-2e	1497	3510
Young 36, ne nw sw 21-2n-2e	2252	3511
Young 101, sw ne nw nw 28-2n-2e	924	3505
W. C. McBride, Fyke Hrs. 7, sw nw sw se 5-1n-2e	72	3446
Lee 20, se nw ne se 29-2n-2e	2	2404
Cumberland Prod. Co., Gentilini 1, sw nw sw sw 7-1n-1e	216	2924
W. B. James, McGuire 1, sw c sw 7-1n-1e	125	2925
Frazier & Slivka, Frank 1, ne sw nw nw 18-1n-1e	648	2930
L. Simmell, Homan 1, lot 1, blk 70, sw se nw sw 18-1n-1e	125	2905
Hollingsworth, Kalkbrenner 12, nw ne se sw 5-1n-2e	250	3441
Tidewater, Miller 6, nw ne ne 18-1n-2e	400	2097
Carter, Prather 1, se nw sw 28-1n-2e	*	2313
T. J. Gartland et al, Mason 1, nw se sw nw 4-2n-1e	*	3074
Campanilla-Lilly, Lee RDWY. 2, ne nw ne sw 28-2n-2e	1659	3470
Haynes & Thomas, Lee RDWY. 3, se nw ne nw 28-2n-2e	1872	3482
Marvel Oil Co., Lee RDWY. 3, se nw se sw 28-2n-2e	1274	3492
Sheppard, Grier 1, sw c ne sw 30-2n-2e	1572	3541
Monroe County—		
S. Brooks Remington, Kolmer 4, se nw ne nw 2-2s-10w	18	460
St. Clair County—		
Harold Anderland, se sw nw ne 33-1n-10w	*	725
Wabash County—		
Magnolia, Fifer 2, sw se nw 17-2s-13w	*	2552

Summary of Drilling Operations in the United States, Week Ended May 18, 1940

	WELLS COMPLETED							*PERMITS FOR NEW WELLS				
	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1940	Total this Date 1939	This Week	Total this Month	Total 1940	Total this Date 1939	Year Total 1939
Alabama							1					
Arizona												
Arkansas	2	2			479	75	82	5	13	55	78	223
California	25	23	1	1	13,347	511	415	18	75	426	396	1,174
Colorado						3	9					
Florida							1					
Georgia												
Illinois*	87	77		10	53,091	1,374	1,385	103	285	1,566		893
Indiana	12	3	1	8	157	150	53					
Kansas	41	32	5	4	46,713	650	473	52	139	762	521	1,583
Kentucky						92	236					
Louisiana	30	22	3	5	5,104	614	381	43	146	633	435	1,444
Michigan	16	8	1	7	1,428	489	480		50	450	454	1,419
Mississippi	6	4		2	1,310	68	2					
Missouri	1			1		6						
Montana	5	4	1		389	57	43					
Nebraska												
New Mexico*	12	12			5,112	299	241	8	49	285		293
New York	19†	19†			53	424	184					
North Dakota												
Ohio						265	309					
Oklahoma	31	18	2	11	10,412	850	773	30	112	762	800	2,059
Pennsylvania	61†	60†	1		65	985	477					
South Dakota						1						
Tennessee	1			1		3						
Texas	218	163	3	52	83,117	4,044	3,809	189	841	4,919	4,228	10,269
Utah						1						
West Virginia						194	191			127		718
Wyoming	3	3			4,968	54	53	1	1	1		
Total this week	570	450	18	102	225,745	11,209	9,598	449	1,711	9,986	6,912	20,075
Total last week	621	464	9	148	222,475	10,639	9,082	624	1,262	9,537	6,511	20,075
Total this year	11,209	8,227	589	2,393	4,324,890							

* This tabulation includes those states where weekly data are available; figures for Illinois date from October 15, 1939; New Mexico from August 1, 1939.
† Includes water-input wells.

Company, Well and Location	Init. Prod. Bbls.	Depth
W. N. Bartlett, Stanfield 1-A, se sw se se 19-2s-13w	*	2552
Stanfield 3-A, nw ne ne 30-2s-13w	375	2479
Washington County—		
H. Hubbard, Fish 2, se ne sw 14-3s-3w	41	1274
Magnolia, Frederking 1, se nw ne 15-3s-3w	24	1268
Wayne County—		
Roche & Voyles, Milner 3, se nw se 33-1s-7e	*	3336
White County—		
Nation Oil Co., Hanmack 4, ne sw se 31-3s-8e	40	3326
Penn-Illinois, Porter 1, ce½ ne se 12-6s-8e	120	3174
W. C. McBride, Raney 1, se ne se 24-6s-8e	89	3213
Eason & Angle, Storms 10, sw nw se 14-6s-9e	175	2271
Exchange, Storms 6, nw nw ne 14-6s-9e	228	2270
Storms 7, se ne nw 14-6s-9e	100	2274
Angle-Storms 2, sw se ne ne 22-6s-9e	144	2262
Skelly Oil, Storm 4, nw nw sw 14-6s-9e	349	2254
Lain O&G Co., Storms 1, sw ne sw 14-6s-9e	80	2251

Indiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Dubois County—		
O. O. Borden, Shultz 1, n½ se se 5-2s-3w	*	570
Gibson County—		
Cherry & Kidd, Dunn 1, se sw ne 17-3s-13w	*	2828
Bander et al, Cooper 32, se se nw ne 24-3s-14w	125	2533
Hancock County—		
N. N. Smith et al, Ashby 1, ne se se se 26-16n-2e	*	1266
D. D. Chafee, Brock 2, sw sw ne sw 6-16n-6e	*	1007
Knox County—		
M.I.T. Pet. Corp., McHenry 1, ne ne sw	*	3680
Owen County—		
Urban Oil, Everheart 1, s½ ne se 21-9n-5w	*	2578
Spencer County—		
L. M. Steele, Frank 1, se nw nw se 30-7s-6w	¶4.20	908
Ky. Nat. Gas, Parsley 1, nw se ne 31-7s-6w	*	927
Sycamore, Prudential Life Inc. 1, nw ne se nw 7-7s-7w	20	1032
Sullivan County—		
Niagara Oil Corp., Raily 6, nw se ne nw 33-8n-10w	12	788
Forest Oil Corp., Riggs 1, ne c sw 33-9n-9w	*	2390

Kansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton County—		
Shell, Bitter "B" 10, csl se nw sw 5-16-13w	3000	3342
Hoffman "A" 10, csl sw nw sw 7-16-13w	3000	3141
Ehrlich "B" 6, ne sw ne sw 1-16-14w	3000	3352
Derby, State 7, sw nw se sw 11-20-11w	1043	3287
Butler County—		
Rex et al, Lane 1, sw nw 21-26-7e	25	2771
Cowley County—		
Texas, Ross 4, ne se se 21-31-4e	442	3412
Wixson et al, Aylward 1, c nw nw 9-31-7e (Pb 2345)	¶0.4	2851
McKnab, Coats 1, nec 18-34-4e	¶0.3	795
Ellis County—		
Gulf, Pearl 4, ce½ nw se 13-11-17w	69	3384
Skelly, Riddler 1, ce½ se nw 1-11-18w	3000	3484
Phillips, Hendrick 7, cn½ sw ne 13-11-18w	3000	3374
Ellsworth County—		
Gulf, Svoboda 2, ce½ ne se 8-16-10w	3000	3323
Magnolia, Skalicky 1, cw½ sw nw 9-16-10w	3000	3303
Stanolind et al, Stoltenberg "F" 1, cw½ nw nw 27-16-10w	640	3309
Texas, Schroeder 1, cn½ ne sw 27-16-10w	1407	3290
Continental et al, Janzen 2, csl sw nw sw 22-17-8w	1062	3240
Skelly, Zink 6, cn½ sw sw 32-17-10w	2974	3228
Kingman County—		
Skelly, Ratcliff 4, c sw 19-27-10w	¶73.	3982
Marion County—		
Youker, Niocle 1, sec nw 2-17-4e	145	2341
McPherson County—		
Shawver, Union 4, ce½ nw se 18-17-1w	1565	2636
Wright, Krehbiel 1, c sw nw 25-19-2w	342	2962
Republic Natural, Mattson 2, cn½ sw sw 19-20-5w	3000	3323
Continental, Knackstedt 1, cn½ ne nw 30-20-5w	1370	3350
Republic Natural, Knackstedt 2, cn½ nw nw 30-20-5w	354	3345
Carlock, Hoyer 1, c se nw 6-21-1w	*	3410
Pratt County—		
Skelly, Miller 2, c nw 36-27-11w	¶60.2	4105
Rice County—		
Transwestern, Shumway 1, cn½ ne ne 13-20-6w	331	3356
Rooks County—		
Lario, Morrison 1, cs½ sw ne 32-10-17w	*	3681
Russell County—		
Davis, Gaynor 5, cn½ sw nw 19-13-14w	3000	3245
Texas, Deines 2 cn½ sw ne 19-13-14w	285	3260
Mid-Continent, Shaffer 1, nwc sw 35-14-13w	334	2889
Cities Service, Ebel 2, cs½ se se 24-14-14w	1279	2910
Darby, Strecker 1, cn½ ne ne 25-14-14w	1761	2901
Southern, Sellens "C" 4, ce½ se se 29-15-13w	909	3334
Cities Service, Bender "A" 9, csl sw ne ne 26-15-14w	342	3349
Hennessy 5, csl sw nw se 26-15-14w	*	3398
Sedgwick County—		
Dickey, Cook 1, nec nw 20-28-1e (OTD 3121)	9	2992
Stafford County—		
Stanolind, Krug 1, cw½ ne sw 2-22-12w	3000	3564
Stevens County—		
Parker et al, Crawford 1, c sw ne 30-33-37w	¶8.	2812
Trego County—		
Bartlett, Phansenstein 1, c se nw 30-13-25w	*	4681
Woodson County—		
Woodson Pipe Line & Prod. Co., Rhea 16, se sw ne se 13-24-13e	25	1636

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CASE OIL FIELD ENGINES

United States Well Completions—*Continued*

North Louisiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Beinville Parish (Bisteneau)—		
Arkansas-Louisiana Gas Co., Carter A-1, 12-16n-10w	¶56.	5275
Caddo Parish (Pine Island)—		
L. M. Cahoun, Jr., Tr., Caddo Oil & Mining Co. 1, 12-20n-16w	75	1530
D. L. Johnson, Singletary 1, 10-20n-16w	5	1534
Joe G. Straham et al, Stiles B-2, 32-21n-16w	¶1.	2380
L. L. Sugar, Hart 6, 22-21n-16w	15	1030
Stanolind, Dillon 132, 13-21n-15w	50	1680
Grant Parish (Urania)—		
J. E. Grandstaff, Morrison 2, 10-9n-1e	20	1535
La Salle Parish (Wildcat)—		
Atlantic Ref. Co., Goodpine 2, 28-9n-2e	•	4000
La Salle Parish (Olla)—		
Arkansas Fuel Oil Co., Goodpine A-1, 7-10n-3e	200	2410
Placid Oil Co. (H. L. Hunt), Goodpine 3, 12-10n-2e	400	2405
La. Cent. Lbr. Co. 12, 13-10n-2e	225	2388
La. Cent. Lbr. Co. 13, 13-10n-2e	225	2419
Sabine Parish (Converse)—		
Odell Hinson et al, Frost Lbr. Industries 1, 22-9n-13w	10	3228
A. R. Chestnutt, Logan Oil Co. 1, 26-10n-13w	•	1970
Union Parish (Monroe)—		
Memphis Nat. Gas. Co., Frost Lbr. Industries 4, 14-22n-3e	¶1.5	2203

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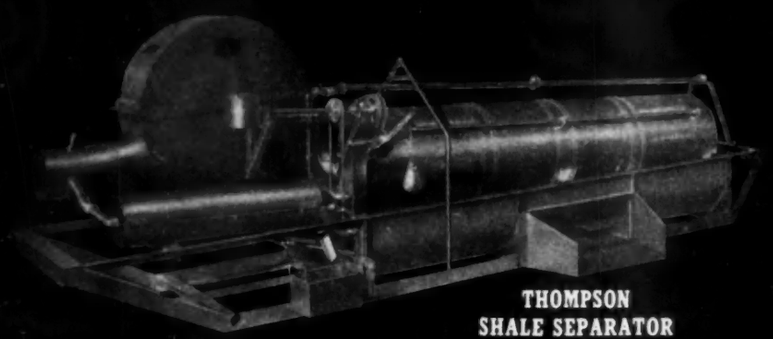

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South Louisiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Barataria—		
Texas, Madison Realty A-6	801	10,180
Cheneyville—		
Richardson, Well 12	390	5797
Eola—		
Amerada, Cerami 1	671	7171
Golden Meadows—		
Bennett, Lafonte 4	108	5196
Hargrove, Rizon 4	195	5510
Martex, Falgout 3	113	5180
O'Dwyer, Lafourche Realty 2	324	5176
Texas, Louisiana Land & Exp.	276	5782
Jennings—		
Glassell & Glassell, McFarlin 8	250	7256
Little Bayou—		
Texas, Smith 2	•	9791
Hebert 2	198	8535
South Jennings—		
Stanolind, Remages 1	•	10,953
Ville Platte—		
Continental, Deville 6	110	9005
Danciger, Vidrine 2	443	10,189
St. Bernard Parish—		
Gulf Refining, State 4	•	12,019

Michigan

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Weller, Jones & Dapars, Barbee 1, nw nw se 18-1n-14w	•	1300
Howard Fowler, Japink 1, sw se nw 3-3n-14w	275	1511
Clare County—		
Taggart Bros., Welsh 22, sw ne nw 29-19n-5w	•	1450
Clinton County—		
E. J. Van Core, Fleagle 1, nw sw nw 15-8n-2w	•	2928
Isabella County—		
J. V. Wicklund Dev. Co., Carpenter 1, se sw nw 17-16n-3w	40	3730
Cities Service, Tubbs-Nixon 1, nw nw se 17-16n-3w	415	3737
Kent County—		
Socony Vacuum, Turner 1, ne ne nw 26-9n-11w	•	2171
George Kernodle, McKay 1, sw sw sw 19-7n-12w	500	1908
Missaukee County—		
McClanahan & Rowmors, Quist 1, cn nw nw 22-21n-7w	•	3945
Monroe County—		
W. L. Harvey, Babcock 1, nw ne nw 4-7s-6e	•	2275
Montcalm County—		
Taggart Bros., Halliday 16, c se 12-12n-10w	¶16.5	1122
Muskegon County—		
Strom & Shiffmans, Lund 1 nw ne ne 15-11n-16w	18	1890
Ogemaw County—		
M. J. Ingold, Stevens 4, se sw ne 24-22n-1e	20	2758
Ottawa County—		
Century Oil Co., Dalenberg 1, ne sw ne 33-5n-15w	•	1550
Smith Pet. Co., Masterson 5, ne sw se 23-7n-13w	125	1872
E. B. Strom, Tr., Nichol 1, se nw ne 23-7n-13w	35	1879

Mississippi

Company, Well and Location	Init. Prod. Bbls.	Depth
Humphreys County (Wildcat)—		
Reid Clark et al, Allen 1, 4-13n-4w	•	5057
Monroe County (Amory)—		
Willmut O.&G. Co., Roberts 1, 18-13s-17w	•	2879
Yazoo County (Tinsley Dome)—		
Hassie Hunt, Johnson 3, 14-10n-3w	200	5160
Slick-Urschel Oil Co., Slick 5, 2-10n-3w	400	4880
Union Prod. Co., Twiner 1, 1-10n-3w	350	4932
Cesana 1, 18-10n-2w	360	4833

Missouri

Company, Well and Location	Init. Prod. Bbls.	Depth
Schuyler County—		
Rogers et al, Seamster 1, cn½ sw se 6-65n-13w	•	1400

Montana

Company, Well and Location	Init. Prod. Bbls.	Depth
Glacier County (Cut Bank)—		
Consolidated Gas Co., Frary-Tribal 172-2, nw nw nw 18-32n-5w	240	2887
Santa Rita O. & G. Co., Government 4, cse ne 8-32n-5w	24	3025
Toole County (Kevin-Sunburst)—		
A. Beardslee, Swears 13, cel se nw 9-35n-2w	25	1635
Prevol & Shea, Government 5, se nw sw 11-35n-3w	¶.25	1100
Rimrock Oil Co., Schmidt 5, swc se nw 29-35n-3w	100	1792

New Mexico

Company, Well and Location	Init. Prod. Bbls.	Depth
Eddy County—		
Brewer Dr. Co., Brooks 1, sw se sw 14-18s-30e	504	3314
Carper Dr. Co. et al, State 3-A, sw nw ne 32-17s-30e	100	3135
Continental & M. Yates, Brainard 2, sw ne se 3-18s-29e	768	2642
F. W. Y. Oil Co., Langford 3, se sw nw 9-18s-29e	75	2650
Jones-Yates et al, Robinson-Republic 1-B, se sw sw 35-17s-29e	50	3004
Macy et al, State 1, sec sw 32-17s 29e	65	2636
Lea County (Eunice)—		
Shell Oil, State-Endura 3-A, swc ne 12-21s-35e	220	3880
Lea County (Maljamar)—		
E. G. Woods et al, Simon-Maljamar 2, c sw ne 29-17s-32e	156	3782
Lea County (Penrose)—		
Humble, State 1-M, cnw se 18-22s-37e	1308	3715
Lea County (Vacuum)—		
Magnolia-State-Bridges 60, c se ne 14-17s-34e	253	4660
State-Bridges 62, c sw sw 14-17s 34e	509	4700
Texas Co., State 6-R, nec se 1-18s-34e	1104	4710

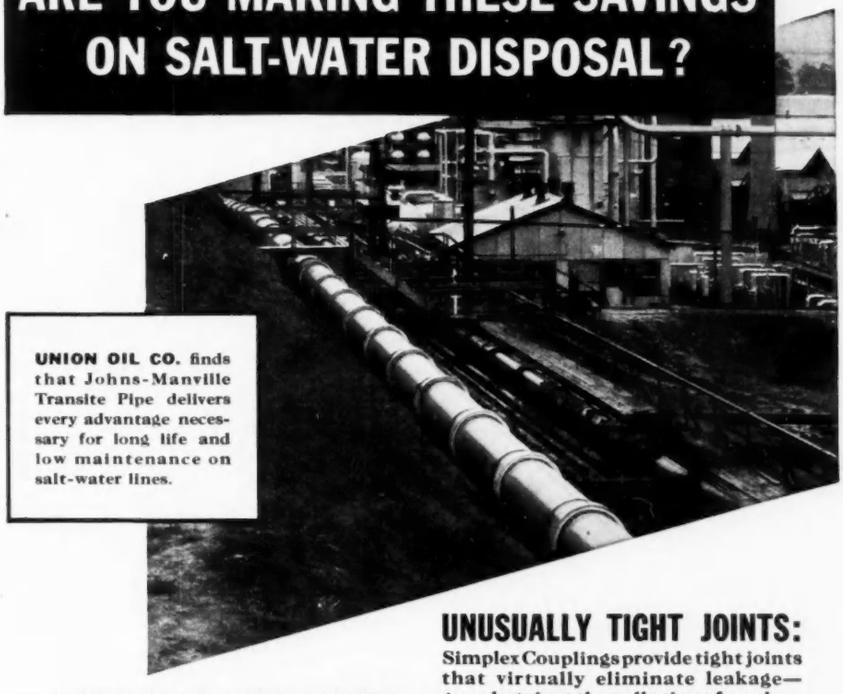
New York

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegany County—		
Liberty Share Corp., Lee farm, Bolivar	10	1380
MacDonell Oil Co., MacDonell farm, Bolivar	5	1273
Richardson Pet. Corp., Holtom Holtom farm, Scio	6	1071
Bradley Prod. Corp., Monitor farm, Alma	5	1264
Monitor farm, Alma	6	1282
Summit Oil Co., Doty farm, Scio	4	1274
Ada May Gray et al, Smith-Gray farm, Genesee	5	1280
Jacob Trinkle Est., Hill farm, Genesee	5	1348
DeFusto, Hill & Shaner, Root farm, Genesee	7	1284
Water Intake Wells—		
R. B. Moore et al, Curtiss farm, Bolivar	...	1276
R. B. Moore No. 6, Daniels farm, Bolivar	...	1372
Cretekos & Vossler Oil Co., Norton farm, Scio	...	1032
N. V. V. Franchot, Reddy farm, Alma	...	1414
The Otaquago Oil Corp., Pike farm, Alma	...	1387
L. H. Thornton et al, Brown farm, Alma	...	1282
Stout & Stout Oil Co., Brandes farm, Wellsville	...	1390
Messer Oil Corp., Courtney Hollow farms, Clarksville	...	1360
Bradley Prod. Corp., Coats farm, Wirt	...	1281
A. G. Shaner Oil Co., Childs farm Clarksville	...	1269

Oklahoma

Company, Well and Location	Init. Prod. Bbls.	Depth
Comanche County—		
Smith, Truitt 8, ne nw sw se 26-2n-11w	4	206
Creek County—		
Bruin, Morton 3-B, nw se ne sw 27-14n-10e	20	3321
Martin et al, Perryman 2, nw ne nw 28-14n-10e	100	2819
Jackson County—		
Kerbo et al, Dora 2, ne sw se 11-1n-20w	30	1398
Jefferson County—		
Trout, Trout 1-A, ne sec sw 19-6s-5w	*	2057
Kay County—		
West Virginia, Mooney 16, sw se nw 17-28n-1e (OTD 3274)	*	4367
Marshall County—		
Pure, Little 1 "A," c w½ ne se 28-5s-7e	4520	5100
Noble County—		
Phillips, Conway 11, se nw nw 21-23n-2w	*	4316
Muskogee County—		
Foltz, Reed 1, ne nec sw 16-14n-17e (OTD 1462)	18	2010
Okfuskee County—		
Summit, Simmer 3, s½ s½ nw 18-10n-11e	834	2305
Smith, Lovin 4, c w½ sw ne 26-11n-11e	20	2047
Okmulgee County—		
Staples, Barnett 1, sec sw 31-12n-13e	¶1.5	1191
Shock, McKee 1, se sw ne 17-14n-11e	110	2388
Young, Tecumseh 1, nw sw ne 6-15n-14e	*	1749
Osage County—		
Dietle, Blackland 1, nwc se 1-27n-7e (OTD 2907)	15	2571
Pawnee County—		
Watchorn O&G Co., Miller 11, nw ne sw 33-23n-3e (OTD 4066)	*	2850
Payne County—		
Blackwell O&G Co., Scott 1, sw nw se 24-18n-14e	156	2985
Pontotoc County—		
Pine, Randall 3, se ne nw 35-5n-4e	480	2507
Pottawatomie County—		
Eason et al, Blackbird 1, nwc sw 19-6n-4e	*	3300
Roy Starr O&G Co., Patrick 1, c nw ne 14-7n-3e	*	4446
Atlantic, Burk 4, c nw ne 16-7n-4e	*	3523
Abernathy 1, se sw nw 24-11n-4e	*	4991
Dunnett, Rogers 2, sec sw 31-11n-4e	557	4472
Seminole County—		
Culver et al, Willmott 1, se nw sw 3-5n-5e	80	2822
Magnolia, Reed 5, nw sw ne 26-5n-7e	15	3942
Edwards et al, Long 1, se nw nw 1-6n-5e	*	3004
Burke-Greis, Yekcha 3, nw sw nw 29-7n-8e (OTD 4105)	30	3218
Central Commercial, Douglas 2, sw ne se 30-8n-8e	*	2940
Tillman County—		
I.T.I.O. Co., Hatler 1, c sw ne 32-2s-17w (OTD 3420)	98	3407
Graham 4, nwc ne 1-3s-19w (OTD 3113)	3325	5101
Wagoner County—		
Gartner et al, Writtenhouse 1, nwc se 16-17n-17e	¶0.20	970

ARE YOU MAKING THESE SAVINGS ON SALT-WATER DISPOSAL?



UNION OIL CO. finds that Johns-Manville Transite Pipe delivers every advantage necessary for long life and low maintenance on salt-water lines.

LOW INSTALLATION COSTS:
Long 13-foot sections of J-M Transite Pipe are light and easily handled. Simplex Couplings provide a simple assembly method that speeds up installation, cuts costs. What's more, they also permit easy, rapid disassembly and relocation with high salvage.

LOW MAINTENANCE COSTS:
Salt water inside, corrosive soils outside, have little effect on Transite Pipe. It's made of two of the most durable minerals known—asbestos and cement. Because it can't rust, rot or decay, it offers maximum assurance of long life and low maintenance.

UNUSUALLY TIGHT JOINTS:
Simplex Couplings provide tight joints that virtually eliminate leakage—guard against the pollution of productive soils. Furthermore, their flexibility permits laying pipe around wide sweeps without special fittings.

• • •

THESE facts have been proved time and again by many leading oil producers. Full details will show you how Transite Pipe can help you save money on lead lines as well as salt-water systems. Write for brochure DS-320. Johns-Manville, 22 East 40th Street, New York, N. Y.

Johns-Manville
TRANSITE PRESSURE PIPE
FOR LEAD LINES AND SALT-WATER DISPOSAL SYSTEMS

Company, Well and Location	Init. Prod. Bbls.	Depth

Pennsylvania

BRADFORD DISTRICT

First Nat'l Bank, Pt. Allegany, fee	5	....
Messer Oil Corp., Redfield	3	....
Bell & Loop, Hoffman Estate	2	....
Tapp, Gallets & Buffington, Trs. fee	6	....
Forest Oil Corp., 2 wells	2	....
Forest Pet. Corp., 2 wells	2	....
Niagara Oil Corp., 3 wells	3	....
Bradford Transit Co., 30 wells	30	....
Walker Bros., et al, Bing 272	2	....
D. W. Daly No. 2, Bing 369	2	....
Stuchel & Freeman, Freeman	2	....
Pine Run Oil Co., Bing 130-1-2-3-4-6	4	....
Water Intake Wells—		
N. V. V. Franchot, Mgr., Trustee, Campbell	...	....
Forest Oil Corp.	...	....
Forest Pet. Corp.	...	....
Niagara Oil Corp., 6 wells	...	....
Merry Bros., Burger Estate	...	....
Pine Run Oil Co., Bing 130-1-2-3-4-6	...	....

MIDDLE DISTRICT

Porter, Cunningham et al, W. J. Atwell	½	....
Lester Henry, William J. Etzel Estate	1	....
Water Intake Wells—		
Joseph Karl Estate, Lot 106	...	....
Cities Service, Hamilton	...	....

BUTLER-ARMSTRONG DISTRICT

T. W. Phillips G.&O. Co., McKinney Hrs.	¶	....

TENNESSEE

Fentress County—		
Travis Smith, Smith 1, 3 mi nw Jamestown	*	595

The Abercrombie SHEAR-RELIEF Valve is keeping slush pump maintenance costs at rock bottom in oil fields the world over. It's definite that the power end of the pump will build up a pressure which the fluid end, the manifold, the rotary hose, and other pump parts and accessories cannot stand. But it's just as definite that, where a SHEAR-RELIEF Valve is used, the nail will shear at its set pressure and relieve the otherwise dangerous pressure. Proved by more than 7 years of unfailing world-wide service and a consistent increase in sales. We refer you to any user.

FLUID-PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.

GULF BLDG. HOUSTON, TEX.

SHEAR-RELIEF VALVE

Texas Panhandle

Carson County—		
Magnolia, Fee (Tract 244) 76	58	3170
Fee (Tract 244) 79	200	3100
Northern Nat. Gas Co., Wells-Smoot 1	¶16.4	2910
Shell Oil, Cooper 9-C	428	3075
Gray County—		
Cities Service, Walberg 7	129	3055
King Oil Co., Baer 7-B	402	3290
Magnolia, Fee (Tract 227) 31	123	3077
Morse 2-C	554	2685
McIlroy Oil Co., Leopold 3	146	3329
Sinclair Prairie, Pope 4	147	3282
Stanolind, Hood 8	349	3105
The Texas Co., Davis 19	245	2925
Hutchinson County—		
Phillips Pet., Cockrell 46	328	3040
Power Pet. Co., Haile 8	495	3035
Stanolind, Haile 19-B	240	3012
Pitcher 7-B	258	3160
Ware 13-C	181	3104
Texas Co., Lewis 23	262	3020
Pond 27	554	3030
Wheeler County—		
J. P. Ledford et al, Sloss 1	97	2094

West Central Texas

Brown County—		
Quinn et al, Williams 1	*	1185
Stuard et al, Hennigan 1	17	986
Brown County (Wildcat)—		
Robertson et al, McGary-Gibbs 1	*	980
Callahan County—		
O'Dell et al, Hatchett 1	*	455
Pepper et al, Carmichael 1	*	790
Callahan County (Wildcat)—		
Lee et al, Ross 1	*	1707
Comanche County (Wildcat)—		
Bossart et al, Tate 1	*	748
Jones County—		
Jones-Stasney-Groover-Rose, Humphrey 1	*	3397
N. H. Martin & Son, Davis 2	70	1713
Texas Central Co., Harvey 1	40	1582
Ungren-Frazier et al, Akard 1	83	2130
Jones County (Wildcat)—		
W. I. Southern, Hayden 1	*	2616
Palo Pinto County—		
Palo Pinto O&G Co., Strawn 18-C	*	3320
Palo Pinto County (Wildcat)—		
Crow & Sons, Belding 1	*	4258
Shackelford County—		
Owens-Snebold Oil Corp., Haterius 7	309	3200
Roeser-Pendleton, Cook 9-B-113	33	1566
Shackelford County (Wildcats)—		
Roark & Hooker, Walker 1	*	388
Waddington et al, Smith 1	*	589
Stephens County—		
H. Baldwin et al, Walker 1	*	2110

West Texas

Andrews County (Wildcat)—		
Illinois Oil Co., University-Atlantic 1	*	5611
Crane County (Dune)—		
Wasome Oil Co., University-Standard 2, sec 5	323	3314
Crane County (Gulf-McElroy)—		
Gulf, McElroy 216	1017	2983
Crane County (Sand Hills)—		
Humble, Tubb 37	1802	4420
Crockett County (Wildcats)—		
Clark-Cowden Dr. Corp., Atwood 1	*	2473
Moore Bros. Corp., Henderson-Sinco 1-A	*	1116
Soma O&G Synd., Noelke 1	¶19 and 778	1075
Crockett County (Todd Deep)—		
Continental Oil et al, Todd 3	2270	5850
Ector County (Foster)—		
Broderick & Calvert, Witcher 22	1124	4170
Sinclair Prairie, Johnson 2-B	551	4116
Stanolind, Cowden 40-B	296	4200
Witcher 37	375	4140
Sun Oil Co., Witcher 1	680	4110
Sunray Oil Co., Johnson-Phillips 1-J	578	4308
Ector County (Goldsmith)—		
Phillips & Pure Oil, Cowden 84	803	4155
Cowden 87	6566	4152
Ector County (North Cowden)—		
Cities Service, Wight 2-B	931	4230
Gaines County (Cedar Lake)—		
Stanolind, American Warehouse 2	502	4740
Gaines County (Seminole)—		
Amerada Pet. Corp., Mann 2	811	5210
Atlantic Ref. Co., Riley 5-B	877	5275
Riley 3-C	756	5300
Magnolia-Atlantic, H. & J. 4-219	746	5261
Gaines County (Wasson)—		
Continental, Wasson 2-A-50	916	5030
Hockley County (Slaughter)—		
Devonian Oil Co., Hudgens 1	878	5024
Howard County—		
D. C. Reid et al, Snyder 1	157	2862
Loving County (Mason)—		
Michigan O.&G. Co., Kyle 9	*	4042
Pecos County (Fromme)—		
Culbertson & Irwin, Fromme 2	49	1698
Pecos County (Pecos Valley)—		
A. C. Fritz et al, Iowa Realty 3	210	1660
Ward-Pecos Pet. Corp., Pecos Valley Oil Co. 5-E	10	1660

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
Pecos County (Tobarg)—		
Cardinal Oil Co., Tippett-Kirby 56-E	25	491
A. J. Rife et al (was Marvin-Henderson), Tippett-Conoco 15	76	429
Scurry County (Sharon)—		
F. W. Merrick, Snyder First Nat'l Bank 3	354	2503
Terrell County (Wildcat)—		
D. & S. Oil Co., Bell 1	*	2704
Upton County (McCamey)—		
Clark & Cooper, King-Texaco 1	66	2158
Ward County—		
Edwards-Moore & Donnelly, Reynolds 3	350	1905
Gulf, Hutchings 140	991	2736
O'Brien 128	422	2778
O'Brien 130	522	2518
Geo. McQueen & Clevenger, Sealy 6	872	3096
Yoakum County (Wasson)—		
Aloco Oil Co., Hovencamp-Texaco 8	1949	5091
Willard-Texaco 7-B	810	5233
Denver P&R Co., Whittenburg 18	1318	5130
Honolulu Oil Corp., Wilder 11-804	1007	5130
Humble, Ann Armstrong 1 (5950-ac)	1135	5125
Mabee O&G Co., Willard 4-C	455	5170
Magnolia, Mahoney 14	1102	5182
Shell, Baumgart 9-A	1750	5194
Baumgart 9-D	1414	5190
Baumgart 5-E	1031	5197
Sun Oil, Lynn 6	268	5190

East Texas

Kilgore Area—		
Mrs. Bess Johnson, Hale 3, blk 120	1200	3575
Jas. E. Kemp et al, King 11, blk 138	800	3545
Mabee O&G Co., Cole-Shell 25 (120-ac)	2500	3520
Longview Area—		
Coastal Dev. Co., Flewellen 27 (200-ac)	1500	3659
B. F. Phillips et al, Mathews 2 (70-ac)	1000	3626
Roy Sunby et al, Rash 1	*	3763
Leon County (Long Lake)—		
Carter-Gragg Oil Co.-FHE Oil Co., Carter 2	¶115.	5288
Titus County (Talco)—		
Adams & Lyles, Mt. Pleasant Bank 1	†	4337

South Texas

CORPUS CHRISTI DISTRICT

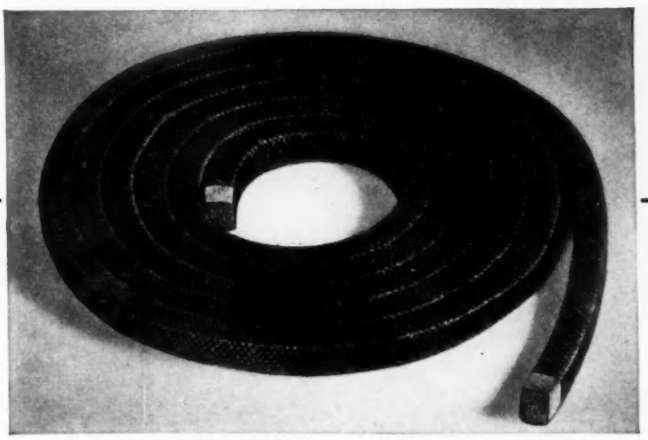
Hidalgo County—		
Royal O.&G. Corp., Chapa A-1 (WC) por 39	350	4130
Chapa C-1 (Samfordyce)	*	4026
Jackson County—		
Humble, Tony B-4 (West Ranch)	900	5560
Jack F. Hutchins et al, Wearden 1 (WC) sur 4	*	6008
Magnolia, West 74-A (West Ranch)	1250	5767
Stanolind, L. Ranch Co. 6 (West Ranch)	1500	5640
Jim Wells County—		
Bridwell Oil Co., Hoffman B-1 (Ben Bolt)	700	5242
Esves Oil Co., Spoetzl 1 (WC) Wm. Hobbs sur	500	4814
Heep Oil Corp., Anderson 1, (Ben Bolt)	*	5713
Simmons & Noyes, Edwards 1 (Premont)	43	2375
Live Oak County—		
Clark Drilling Co., Lauridge 1 (White Creek)	34	1545
W. R. Davis Co. Nichols 1 (WC) Simeon Ryan sur	*	1503
Edwin M. Jones, West 1-A (WC) sur 7	*	10,893
Moore Dev. Co., McGriff 1 (Oakville)	650	2147
Nueces County—		
Continental Oil, Davis 1 (WC) sec 159	*	8027
Sinclair Prairie, State of Texas 1-A (E. White Point)	500	5633
W. R. R. Oil Co., State of Texas 1 (747) (E. White Point)	600	5641
Refugio County—		
Hewitt & Doughtery, Rook 15-B (LaRosa)	*	5753
J & C Dr. Co., Vance et al 1 (LaRosa)	650	5450
San Patricio County—		
Bay-Tex Oil Co., Ellison & Horton 1 (McCampbell)	325	7225
Houston Oil Co., Baldwin 12 (E. White Point)	600	5720
H. H. Howell, Sigmond & Click 1 (McCampbell)	¶20 & 100	7487
Republic Nat. Gas Co., Rachal 36 (E. White Point)	500	5670
Victoria County—		
J. W. Sewell, Tr., Vogt 1 (Victoria)	*	3110
Texas Gulf Prod. Co., Kester Hrs 1 (WC) C. M. Creanor sur	150	6881

LAREDO DISTRICT

Duval County—		
Continental Oil, Driscoll 49-A (Driscoll)	400	3343
Government Wells Oil Co., Lundell 1 (WC) sur 364	¶14 & 25	1359
Humble, D.C.R.C. 11-F (Cedro Hill)	45	1443
D.C.R.C. 12-F (Cedro Hill)	68	1443
Magnolia, Well 10 (495) (Hoffman)	125	2641
Marshall Purvis & Wm. Appell, Peters 1 (Rancho-Solo)	*	1902
McMullen County—		
Tybro Royalty Corp., Martin 3 (WC) sur 18	*	727
Starr County—		
A. L. Bone et al, Garcia de Garcia 3 (Margo)	*	490
Humble, Montalvo 4 (Sun)	*	5448
T. E. Stephens et al, Harter 1 (WC) por 69	*	205
Webb County—		
Interstate Minerals, Lopez 47 (Glen)	†	1390
Magnolia, Volpe-Benavides 27 (Volpe)	38	2457
Locke Purnell, Kirkpatrick 1 (WC) sec 26	*	2334

SAN ANTONIO DISTRICT

Caldwell County—		
Ralph R. Ogden, Talley Est. 7 (Dale)	135	2305
Guadalupe County—		
C. E. Euton, Schievelbeing 1 (Elm Creek)	7½	814
E. A. Weyel, Mattke 4 (Elm Creek)	4½	680
Travis County—		
J. H. Sprouls & A. G. Hinn, Balm 1 (WC) Santiago Del Valle gr	*	1273



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For every service where a plastic packing is desired—use Garlock *Plastallic*. These superior plastic packings are scientifically compounded to Garlock formulae. Only the purest asbestos fibre, soft metals, graphite and special lubricants enter into their construction.

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THE GARLOCK PACKING COMPANY
Palmyra, New York
Tulsa, Okla. Houston, Tex.
Los Angeles, Calif.

GARLOCK *Plastallic*

United States Well Completions—*Continued*

North Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Hull-Silk)—		
J. Beren et al, White 1	1320	4418
Chapman-McFarlin, Wilson 11-C	1200	4395
Helmerich-Payne, Wilmot 1-A	935	4365
Ed Peterson & DeMontel, Schildknecht 2	1152	4312
Petroleum Prod. Co., White 3	816	4408
White 4	1032	4417
Louis Sikes et al, Cowden 2	120	4427
Archer County (Mankins)—		
British-American O. P. Co., Parrish 1	362	4830
Archer County—		
Cato Oil Co., Anderson 11	*	1085
Rancho Oil Co., Prideaux 18	8	667
Clay County—		
Apache Oil Co., Henderson 2	10	1141
Clay County (Wildcat)—		
Prince Bros. et al, Kempner 1	*	1354
Cooke County—		
Bridwell Oil Co., Flusche 5-B	94	1221
T. P. Frost et al, Clerr 1	*	848
Kingery Bros. et al, Johnson 7	62	1197
Lausen & Dixon, Fette 2	34	1119
Texas Co., Trubenbach 19	80	793
Cooke County (Wildcat)—		
C. E. Marshall-Rutledge et al, Stark-Sinco 1	*	4920
Denton County (Wildcat)—		
E. A. Shotts-J. L. Fennell, Saunders 1 (GTD 1505)	*	2053
Haskell County—		
S. B. Roberts et al, Pardue 1	*	3397
Montague County (Nocona)—		
Ramsey Pet. Corp. et al, Loring 1	*	6988
Montague County—		
Claymount Oil Co., Bouldin-Texaco 2	23	822
Falls Ref. Co., Bouldin 15	11	785
Wichita County (K-M-A)—		
C. O. Davis et al, Burnett 1	528	4119
Deep Rock Oil Corp., Hamilton 7	353	3775
Hanlon & Buchanan, Fassett-Tuttle 12-E	374	4063
Kadane-Griffith Oil Co., Martin 1	400	3867
F. W. Merrick, Jones 2	744	4098
W. B. Omohundro et al, Hodges 8	640	3833
Hodges 9	344	3876
Jones 5	720	4075
Shell & Phillips Pet Co., Griffin 7	772	3809
Wichita County—		
Carey & Carey, Kemp-Kempner 1	*	804
Deaton & Boardman, Warren 11	*	736
Hanlon & Buchanan, Fassett-Tuttle 17-G-S	*	832
King Oil Co., Burnett 13	*	1499
Lawsonia, Waggoner Est. 3-AA	*	1618
Geo. Proctor et al, Foster 53-A	71	1548
Foster 54-A	68	1549
Wilbarger County—		
King Oil Co., Waggoner Est. 11-N	11	1431
W. T. Waggoner Est, Fee 2-FF	744	3221
Young County—		
Paul Atchley et al, Benson 1	*	910
Lupton & J. McLester, Brazelton 1	*	3051
P. B. Worthington et al, Schlegel 1-B	*	1134
Henry Zweifel et al, Martin 1-B	624	4008

NATURAL GAS

fuel for the fires of Texas industry

The industrialization of the Texas Gulf Coast has been materially assisted by the availability of unlimited supplies of natural gas. Expanding and decentralizing industries have been quick to recognize the advantages of this Coast Country resource: the elimination of expensive handling machinery and storage space; ease of delivery and control; cleanliness; economies in furnace maintenance costs.

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HOUSTON PIPE LINE CO.

Subsidiary of Houston Oil Company of Texas

GEO. A. HILL, JR., President

Wholesalers of Natural GAS

Texas Gulf Coast

Company, Well and Location	Init. Prod. Bbls.	Depth
Amelia—		
Bybee & Synott and Heep, Bybee & Synott 1	407	7730
Anahuac—		
Richardson, Lindgren 1	567	7235
Barbers Hill—		
Sun, Higgins 4	36	3805
Clear Lake—		
Humble, West Fee 45	449	5918
Danbury—		
Rowan, Jamison 12	73	2114
Dickinson—		
Pure, Outerrside 2	216	8100
Fairbanks—		
Amerada, Foley 21	149	6838
Williams & Gillespie, Deacon 6	108	6856
Goose Creek—		
Grace, Wright 1	54	2033
Hamman—		
Hamman, Ridlers 2	103	8949
Hastings—		
Humble, Haden 1	338	6076
Stanolind, Edwards 13	350	6079
Humble—		
Clay, Bender 25	50	1066
Joe's Lake—		
Republic, Fee 35	375	7705
Old Ocean—		
Harrison & Abercrombie, Armstrong 8	344	11,046
Pierce Junction—		
Hammill & Smith, Gulf Fee 2	21	3432
Rio Bravo, Settegast 36-A	204	3605
Saratoga—		
Paggi, Petty 1	12	870
Silsbee—		
Republic, Brooks League 25	383	6940
Sour Lake—		
Quine, Glass 2	8	2220
Glass 3	11	2242
Glass 12	3	2094
South Cotton Lake—		
Humble, Casey 2	96	6518
South Houston—		
Stanolind, Ball 1	3	4080
Thompson—		
Humble, Davis 32	531	5410
Quintana, Wolters Y-4	292	5445
Wolters 11	486	5445
Tomball—		
Texas, Lewis 1	469	5549
West Beaumont—		
Stanolind, Keith & Dowlen 3	419	5379
West Columbia—		
Texas, Abrams 37	330	5510
Withers—		
Texas, Pierce Est. B-51	122	5425
Pierce Est, C-71	101	5395
Harris County—		
J. Richardson and Christian-Carpenter, A. and H. Marks 1	*	7523
Martin Thompson, Highland Farms 1	*	6500

Wyoming

Company, Well and Location	Init. Prod. Bbls.	Depth
Niobrara County (Lance Creek)—		
Continental, Dielman 6-B, cne sw nw 8-35n-65w	528	5490
Minnelusa Oil Corp., Mackinnie-Thompson 9, cne sw ne 7-35n-65w	600	5361
Mackinnie-Thompson 10, nwc nw ne 7-35n-65w	3840	5258

*Failures; †Junked; ‡Million cu. ft. gas.

WILDCAT REPORT
New Starts and Completions

CALIFORNIA

FIRST REPORTS

Fresno County—Continental's Kreyenhagen 1, sec 4-22-16, lcn, Jacalitos Hills area.

Kern County—Freeda G. Oil Corp.'s Laymance 3, sec 20-30-22, dr 550 ft, McKittrick area. Kern Line Oil Co.'s No. 1, sec 19-11-19, lcn, Grapevine area.

Los Angeles County—George G. Parry's Moynier-Parry 1, sec 6-2-14, rig, San Fernando area.

COMPLETIONS

Kern County—Franco Western Oil Co.'s No. 18, sec 8-30-22, pumped 280 barrels daily, 19.5-gravity oil, td 2237 ft, McKittrick area.

San Luis Obispo County—Holly Oil Co.'s Meherin 1, sec 7-32-13, td 4072 ft, Franciscan 4025 ft, tar in fractures, Temblor 2330 ft, Arroyo Grande area, abnd.

Ventura County—Santa Clara Pet. Co.'s Calumet 15, sec 3-3-19, td 3224 ft, pumped 100 bbls daily, 35.3-gravity oil, Shiells Canyon area.

KANSAS

FIRST REPORTS

Dickinson County—Midland Oil Co. et al's Haines 1, se sw sw 23-16-4e, sd 1235 ft.

McPherson County—Broadwater's Heaton 1, cel se se 28-17-1w, mim.

Phillips County—Cities Service Oil Co.'s Ray 1, ne nw se 32-5s-20w, lcn.

Rice County—C. L. Carlock et al's Conrad 1, cw½ sw ne 15-20-6w, rur.

Rooks County—Cities Service Oil Co.'s Hansen 1, sec nw 15-6s-19w, lcn.

Russell County—Cities Service Oil Co.'s Rochester 1, sec ne 11-13-15w, dr. Haynes et al's Driscoll 1, cnl se sw 30-15-11w, dr. Gussman et al's Mudd 1, cwl nw ne 16-15-15w, rur.

COMPLETIONS

Barton County—Hollow Dr. Co.'s De Worff 1, csl se ne 25-20-12w, s of Ellinwood pool, Lansing 3135 ft, Arbuckle 3380 ft, abnd 3388 ft.

Cowley County—Hawkeye Oil Co.'s Russell 1, cwl nw se 19-30-5e, 2½ mi s Daniel pool, top Kansas City 2267 ft, no Bartlesville sand, Mississippi 2933 ft, Simpson 3369 ft, Arbuckle 3377 ft, abnd 3410 ft. Morgan Pet. Co.'s Dunn 1, csl sw ne 2-35-5e, sw Rahn pool, Oswego 2714 ft, Bartlesville 3040-60 ft, Mississippi 3141 ft, Simpson 3550 ft, Arbuckle 3565-3603 ft, abnd 3603 ft. McKnab et al's Sherwood 1, ne se sw 4-35-5e, sw Rahn pool, Base Ft. Scott 2800 ft, Mississippi 3037 ft, abnd 3048 ft.

Greenwood County—C. L. Sheedy et al's Hook 1, nw sw nw 4-22-10e, ne Pixlee pool, Mississippi 2333-69 ft, acidized 2000 gals, reacidized 10,000 gals, 5 bbls, abnd 2460 ft.

Trego County—W. N. Bartlett's Phannenstell 1, c se nw 30-13-25w, sw Wakeeney pool, base Kansas City 3980 ft, Mississippi 4288 ft, Sooy 4268 ft, Dolomite 4525 ft, Arbuckle 4650 ft, abnd 4684 ft.

SOUTH LOUISIANA

FIRST REPORT

Iberia Parish—De Arman et al's Burleigh 1, Patoutville area, sec 21-13s-7e, dr 443 ft.

COMPLETION

St. Bernard Parish—Gulf Refining Co.'s State 4, 12s-15e, Lake Bourgne area, abnd 12,019 ft.

NORTH LOUISIANA

FIRST REPORT

Tensas Parish—H. L. Hunt's Chicago Mill & Lbr. Co. 1, c nw nw 30-13n-10e, rig.

MICHIGAN

FIRST REPORTS

Allegan County—Clapsaddle & Harris' Smith 1, sw nw nw 36-3n-14w, dr. Granger 1, nw ne se 22-3n-13w, rig. Keyson Oil Company's Steele 1, nw nw sw 32-2n-11w, lcn.

Calhoun County—Alfred G. Morency's Platz 1, ne nw ne 3-4s-7w, rig.

Gladwin County—Sun's State A1, se se ne 1-19n-1w, rig.

Jackson County—A. G. Morency's Reed 1, sw sw se 13-4s-2w, dr.

Kent County—Whiteson O. & G. Co.'s Rulason 1, se se ne 17-6n-9w, rig.

Osceola County—Weber Oil Co.'s Gavel 1, ne ne sw 31-18n-10w, rig.

Otsego County—Rinehart & Hickoks' AuSable 1, nw se nw 34-30n-3w, rig.

Ottawa County—H. H. Heinig's Van Draght 1, se se sw 22-6n-16w, rig.

Shiawassee County—Leonard Blood's Hoffman 1, se se ne 6-5n-3e, rig.

COMPLETIONS

Allegan County—Weller, Jones & Dapars' Barbee 1, nw nw se 18-1n-14w, Traverse 1275 ft, abnd 1300 ft.

Clare County—Taggart Bros., Inc.'s Welsh 22, sw ne nw 29-19n-5w, abnd 1450 ft.

Clinton County—Edward J. Van Core's Fleagle 1, nw sw nw 15-8n-2w, Traverse 2343 ft, Dundee 2869 ft, so&w 2876 ft, abnd 2928 ft.

Kent County—Socony Vacuum's Turner 1, ne ne nw 26-9n-11w, abnd 2171 ft.

Missaukee County—McClanahan & Rowmors' Quist 1, c n nw nw 22-21n-7w, Traverse 3250 ft, so&g 3275-89 ft, Monroe 3937 ft, black water 3944 ft, abnd 3945 ft.

Monroe County—W. L. Harvey's Babcock 1, nw ne nw 4-7s-6e, Trenton 2035 ft, abnd 2275 ft.

Muskegon County — Strom & Shiffmans' Lund 1, nw ne ne 15-11n-16w, Traverse 1844 ft, Dundee 2228 ft, td 2280 ft, pb 1890 ft, acidized to 18 bbls day on pump in Traverse.

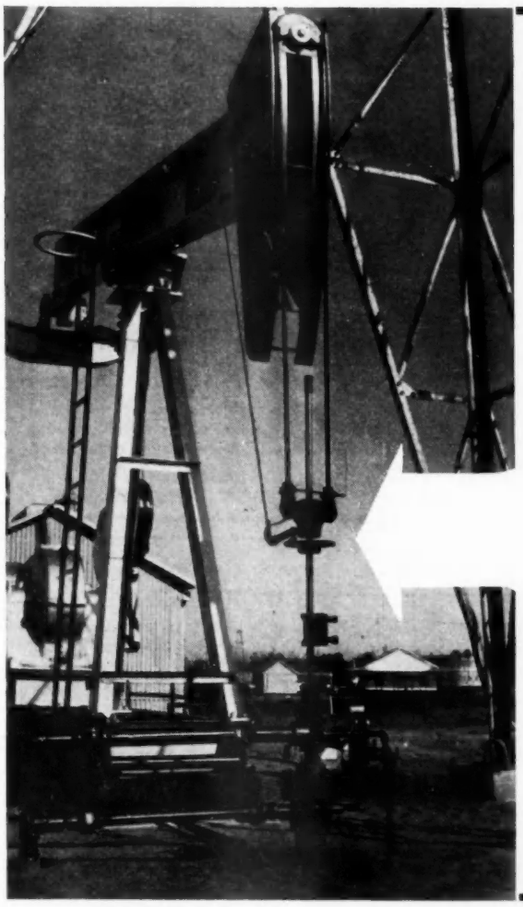
MISSISSIPPI

FIRST REPORTS

Holmes County—Exchange Oil Co.'s Thurmond 1, sec 21-15n-3e, rig. A. H. Rowan's Eakin 1, c nw se 20-14n-1e, mat.

Monroe County—Willmut O. & G. Co.'s Rye 1, c ne 22-15s-17w, rig.

Washington County—Charles Perkin's Gen-



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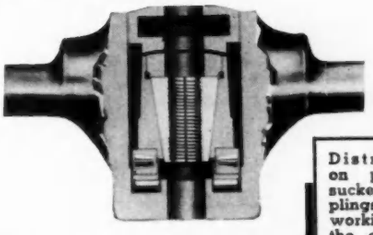

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eral American Farms 1, se 9-14n-8w, rig.

COMPLETIONS

Humphreys County—Reid Clark et al's Allen 1, sw 4-13n-4w, elev 98 ft, Igneous 3810 ft, Base Igneous 4160 ft, abnd 5057 ft.

Monroe County—Willmut O. & G. Co.'s Roberts 1, sec 18-13s-17w, elev 484 ft, abnd 2879 ft, sandy shale.

MISSOURI

COMPLETION

Schuyler County—Rogers & Rogers' Seamster 1, cn½ sw se 6-65n-13w, 6 mi se Lancaster, Mississippi 383 ft, Warsaw 460 ft, Burlington 590 ft, Choteau 728 ft, Kinderhook 830 ft, Devonian 890 ft, Kimmswick 1155 ft, St. Peter 1314 ft, Arbuckle 1385 ft, abnd 1400 ft.

New Mexico

FIRST REPORTS

Eddy County—Sanders Bros. et al, De Temple 1, c nw nw 27-19s-31e, dr 210 ft.

San Miguel County—R. H. Gorman et al's Reuter 1, c se se 4-15n-12e, lcn.

OKLAHOMA

FIRST REPORTS

Comanche County—Wynn's Lowe 1, se nw nw 7-1n-10w, td 300 ft, est 10-15 bbls, testing.

Kiowa County—Gled Oil Co.'s McCurdy 1, nec 18-6n-17w, dr.

Pottawatomie County—Thompson Brothers' Truesdale 1, sec nw 31-8n-5e, dr.

Tillman County—Helf's Ball 1, ne nw sw 30-1n-17w, lcn. Gulf's Owen 1, nec 27-4s-15w, pits.

COMPLETIONS

Marshall County—Pure's Little 1, c w½ ne se 28-5s-7e, Cumberland pool discovery, Tulip Creek sand 4952 ft, second sand, 5088 ft, McLish 5103 ft, td 5640 ft, pb 5100 ft, 2851 bbls in 16½ hours, 37.3-gr.

Okfuskee County—C. A. Yoakam et al's Replogle-Johnson 1-A, nwc ne 11-11n-10e, 2 mi sw Blakely pool, Cromwell 3140 ft, td 3177 ft, 107 bbls, 36-gr.

NORTH TEXAS

FIRST REPORTS

Baylor County—R. T. Myers et al's Francher-Portwood 1, H&TC sec 19, blk 45, mach. Jim Rogers & B. M. Lanfair's Howe Bros. 1, sw J. Howe sur A-572, mim for 3500 ft test.

Clay County—Roy I. Carter's Harrison 1, nw sw blk 150, Byers subd, sp. E. N. Costley-Bell O&G Co.'s Vevering 1, nwc s½ blk 4, BBB&C Ry sur, lcn for 2500-ft test.

Cooke County—J. I. Staley, Jr. & Hernley McCullough's Judy 1, Cromwell-Hawley sur A-285, dr 850 ft.

Jack County—R. A. Conklin et al's Hoefle 1, A. James sur A-318, lcn 4400-ft test. Knappenberger-Harper & Steed's Marley 1, M. Mabin sur A-416, ½-mi e of Senate, lcn.

Montague County—Lesh & McCall's Holt 1, blk 26, Kaufman CSL sur, A-407, lcn 2000-ft test.

Wichita County—Baber et al's Cooper 1, lot 3, H. Hastie sur A-98, sd 85 ft.

WEST CENTRAL TEXAS

FIRST REPORT

Parker County—Charlie Carter et al's Yeager 1, C. H. Atkinson sur A-23, lcn.

COMPLETIONS

Brown County—C. H. Robertson et al's McGary-Gibbs 1, 160-ac tr, HT&B sec 1, abnd 980 ft.

Callahan County—H. W. Lee et al's Ross 1, n½ sw¼ BBB&C sec 98, abnd 1707 ft.

Comanche County—H. S. Bossart et al's Tate 1, nw J. M. Robinson sur A-1170, abnd 748 ft.

Jones County—W. I. Southern's Hayden 1, 467 ft out of nwc 552½-ac tr, G. Martinez sur 195, A-262, acid 2475-88 ft, abnd 2616 ft.

Palo Pinto County—Crow & Sons' Belding 1, BBB&C sec 103, Caddo lime 3367 ft, abnd 4258 ft.

Shackelford County—R. H. Roark-L. F. Hooker's Walker 1, TE&L sec 377, abnd 388 ft. C. W. Waddington et al's Smith 1, sec 56, abnd 589 ft.

WEST TEXAS

FIRST REPORTS

Crockett County—Finance Oil Co.'s Hoover 1, se GC&SF sec 10, blk 1, machine. J. N. Gregory-Bryce McCandless & Superior Oil Co.'s (Tulsa) Shannon 1, league 3, Archer CSL sur, lcn.

Reagan County—R. E. Wingo et al's Ringo 1, cnw sec 22, blk K, lcn for 3500-ft test.

COMPLETIONS

Andrews County—Illinois Oil Co.'s University-Atlantic 1, c nw nw sec 14, blk 12, elev 3302 ft, Anhydrite 1640 ft, Yates sand 2960 ft, frosted grains 2980 ft, abnd 5611 ft.

Crockett County—Clark-Cowden Dr. Corp.'s Atwood 1, c ne ne GC&SF sec 49, blk HH, elev 2264 ft, Anhydrite 520 ft, salt 610 ft, abnd in sul w 2470-73 ft. Soma O&G Synd's Noelke 1, sec nw GC&SF sec 30, blk GG, elev 2360 ft, pay (est.) 1037-75 ft, initial 778 bbls oil and 19,000,000 ft gas natural. Moore Bros. Corp.'s Henderson-Sinco 1-A, near sw ne nw GC&SF sec 51, blk OP, elev 2554 ft, first hole jkd 812 ft, second hole lime 1100 ft, abnd 1116 ft.

Terrell County—D. & S. Oil Co.'s Bell 1, sw E. L. Ry. sec 68, blk D-7, elev 1924 ft, abnd 2704 ft.

SOUTH TEXAS

FIRST REPORTS

Bexar County—Bigby et al's Mauerman 1, 149.75-ac tr, Fernando Rodriguez sur, 1 mi w Mitchell Lake, dr 280 ft.

Burleson County—H. Y. Barnett's Flink 1, J. S. Cox sur 5, 5 mi se Tunis, ru.

Duval County—Robert Coker's Smith-Corkill Est. 1, ne ne sur 490, 3 mi s Hoffman fld, lcn.

Gaudalupe County—Wellington Oil Co.'s Mauerman 1, 2661-ac tr, Joseph De La Baume sur, 2 mi s Darst Creek fld, ru for Edwards lime test.

Jim Hogg County—R. A. Welch's Gomez 1, sur 266, 1 mi s Colorado fld, sp.

Live Oak County—Sinclair-Prairie's Hamilton 1, Hooper and Wade sur 119, 10-inch csg 520 ft, dr 756 ft.

Starr County—George R. Boyle et al's Carruth et al 1, share 1-B, pors 91 and 92, juris of Camargo, ru.

Victoria County—Colton & Colton's Fimbel D-1, 148.5-ac tr, T. & N. O. sur 3, 4000 ft n Mahon 1, Sun farmout, 10¾-inch csg 735 ft, dr plugs 740 ft.

Maryland Oil Co.'s Kolle 1, 500-ac tr, Caciano Sambbano sur, ab-103, 3 mi ne Telferner townsite, mir.

Zapata County—O. W. Killam's Robert Hinnant 4, sur 613, 1½ mi w Mirando Valley fld, 15 mi sw Mirando, sp.

COMPLETIONS

Hidalgo County—Royal Oil & Gas Corp.'s Chapa A-1, tr 238, por 39, juris of Reynosa, 1/3 mi n and w Samfordyce prod, 7-inch csg 4130 ft, g sd 3472-85 ft, o sd 3485-91 ft, sd 4121-41 ft, comp flwg 120 BPD, ⅛-inch ch, 700 lbs. tubing pressure, 850 lbs. casing pressure, perf 4122-26 ft with 16 shots, td 4130 ft.

Jackson County—Jack F. Hutchins et al's Wearden 1, I. & G. N. sur 4, blk 2, James Williams sur ab-267, 14 mi n Gonado, 5 mi ne Cordele fld, abnd 6008 ft.

Jim Wells County—Jack W. Calvert's Spoetzl 1, 150-ac tr, William Hobbs sur ab-214, Amerada farmout, 2000 ft n Wade City fld, 5½-inch csg 4810 ft, sd 8410-14 ft, comp flwg 135 bbls, ⅛-inch ch, 400 lbs. tubing pressure and 900 lbs casing pressure, td 4814 ft.

Live Oak County—W. R. Davis Co.'s Nichols 1, Simeon Ryan sur, 7 mi nw Three Rivers, 10¾-inch csg 81 ft, abnd 1503 ft. Edwin M. Jones' West Est. 1-A, lot 400, blk D, Geo. W. West subd, J. Poltevent sur 7, 2½ mi nw George West, Jackson 1993 ft, Hockley 2220 ft, Pettus 3205 ft, Wilcox 7426 ft, abnd 10,893 ft.

McMullen County—Tybro Royalty Corp.'s Martin 3, H. L. Williams sur 18, abnd 727 ft.

Nueces County—Continental Oil Co.'s (was carried as Houser, Warren & Ginther) Davis 1, sec 159, F. Z. Bishop subd of Well Ranch, 3 mi w Bishop, abnd 8027 ft.

Starr County—T. E. Stephens et al's Harter 1, lot 3, Harter subd, Share 270, por 69, juris of Mier, abnd 205 ft.

Travis County—J. H. Sprouls & A. G. Hinn's Balm 1, 565-ac tr, Santiago Del Valle gr, 4 mi e Austin, 5½-inch csg 1055 ft lime 1057-65 ft, Edwards 676 ft, abnd in Glenrose 1273 ft.

Victoria County—Texas Gulf Prod. Co.'s Kester Hrs. 1, 20-ac tr, C. M. Creanor sur, J. W. Rogers sur, 2½ mi w Heyser fld, 5 mi sw Bloomington, sw sd 4468-75 ft, sd 4531-42 ft, sds 5090-5135 ft and 5880-88 ft, Greta 4531 ft, comp flwg est 1½ bbls hour, 90 percent

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oil, 10 percent brackish water, 7/64-inch ch, 875 lbs tubing pressure, perf 5883-85 ft, td 6881 ft.

Webb County—Locke Purnell's Kirkpatrick 1, sec 26, CCSD & RGNG sur, blk 1, 24 mi n Bruni, 6 mi nw Lopez fld, abnd 2334 ft.

Texas Gulf Coast

COMPLETIONS

Harris County—Richardson and Christian-Carpenter Dr. Co.'s Marks 1, Killam area, abnd 7523 ft. Martin Thompson's Highland Farms 1, Highlands area, abnd 6500 ft.

WYOMING

FIRST REPORT

Fremont County—Logue Trust Co.'s Wisner 1, ne sw 8-33n-98w, cable tools, sp.

Los Angeles Nomads See Pictures of Alaskan Operation

A pictorial history of Alaskan drilling operations of Iniskin Drilling Company was given at a recent meeting of the Los Angeles Chapter of Nomads. Colored motion pictures accompanying a lecture by R. E. Havenstraite, president of California Western Oil Company, brought out the difficulties encountered in drilling the test well on the west coast of Cook Inlet, southern Alaska, and pictured much of the rugged but beautiful scenery in that territory.

A guest of honor at the dinner was Hale B. Soyster, chief engineer for the petroleum division of the United States geological Survey, Washington. Guests from other countries included F. W. van Bilderbeck, of B.P.M.; B. Bongers, of U.B.O.T., Trinidad; Erno Bonebakker, of B.P.M.; J. Domeroq, of California Arabian Standard; O. A. Grainger, of K.T.O., Trinidad; G. W. Van Hillo, of C.P.C., Colombia; Karl Jauman of Attock Oil Company, India; J. McPherson, of California Arabian Standard; Clarence Ochs, of Ecuadorian Oilfields, Ltd., Ecuador; Jess Rector, of Ganzo Azul, Peru; Antonio Sanz-Agero, of Texas Petroleum Company of Venezuela; George Schepers, of N.K.P.M., Sumatra; J. A. Thornton, of B.P.M.; E. L. M. Trafford, of B.P.M.; J. W. Burns, of C.P.C., Cucuta, Colombia; and L. C. McMorris, of K.T.O., Trinidad.

Liberalize gas/oil ratio report rule for Seminole

The Texas Railroad Commission has revised its rule requiring gas/oil ratio reports from the Seminole field, Gaines County, the new order providing that reports shall be filed twice a year instead of quarterly.

Four-Day Golf Tournament For International Exposition

A four-day golf tournament has been scheduled for visitors at the International Petroleum Exposition in Tulsa, May 18 to 25, Frank Gray is chairman of the committee on arrangements for the match.

All flights will be played at the Tulsa Country Club. Qualifying rounds will be played on Tuesday, May 23, with finals to be held the following Friday. The course will be available all day Monday for practice rounds.

Prizes will be awarded for medalist in all flights, with a special flight for seniors scheduled.

Members of the committee on arrangements include Walter Emery, Dr. W. J. Bryan, John M. Winters, R. Earl Thompson, and R. Glen Wilson.

THE CEMENTING CREW — *from a lithograph by* E. M. SCHIWETZ

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Manufacturers also find it valuable for reference. Advertising agencies find it a valuable addition to the library.

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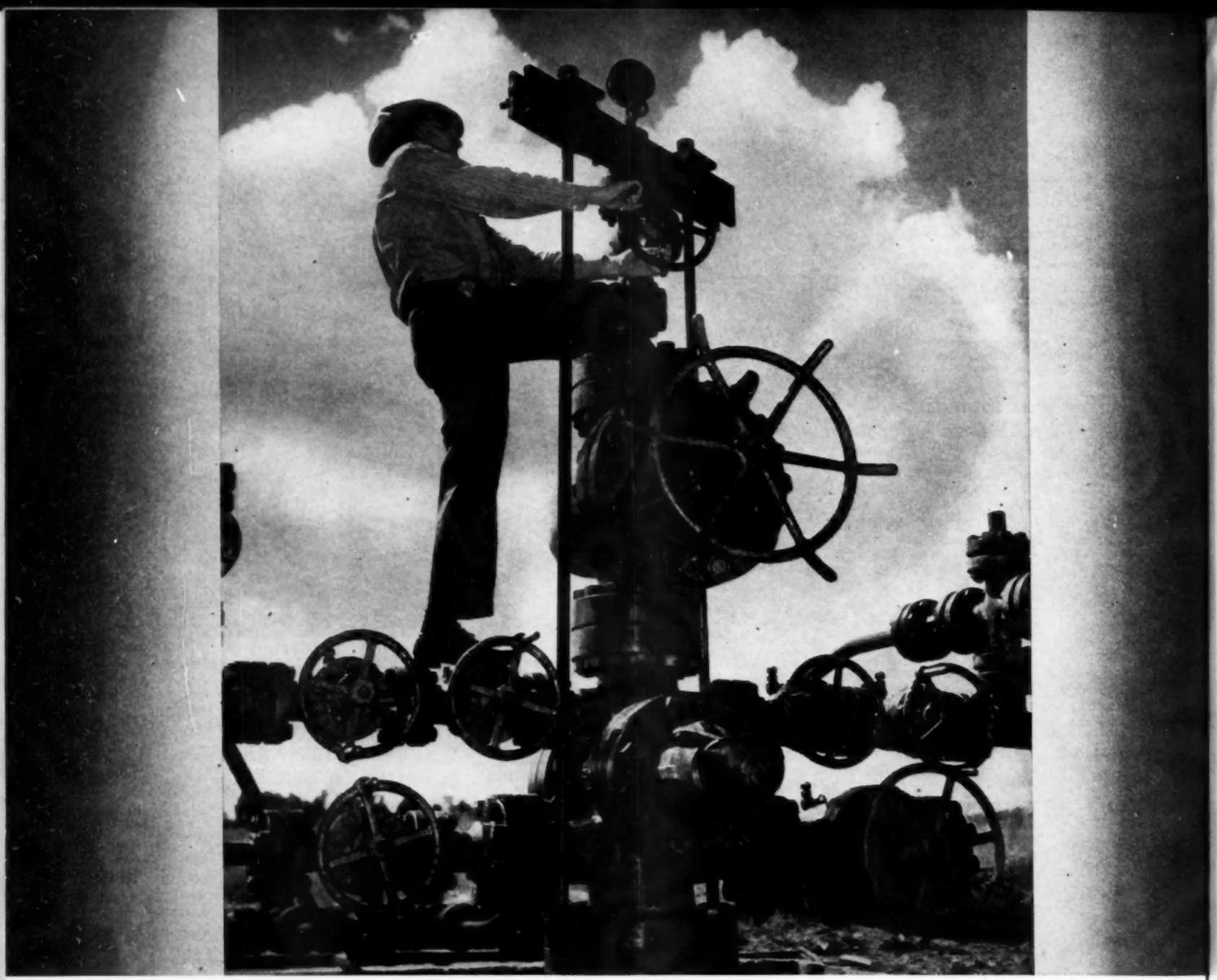

STOPPING TROUBLE BEFORE IT STARTS

Around an oil well, "always expect the unexpected", is about the safest working formula. But possible failure of the Christmas tree valve is rapidly becoming one thing that can be dismissed from even the most pessimistic of outlooks, now that cast Manganese-Molybdenum steel is practically standard for the valve bodies.

This steel, because of its great strength, eliminates the need for unduly heavy sections to withstand the high pressures. At the same time it has adequate hardness to resist abrasion whether from scale or sand. It will make castings which are free from leak-causing defects. And it is comparatively inexpensive.

Molybdenum steels, both cast and forged, have many equally important applications in the oil fields. Complete information about them has been gathered in our technical book, "Molybdenum Steels in Oil Production". It is free for the asking.

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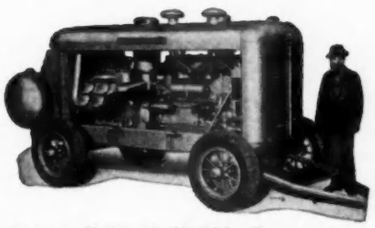
MOLY

NOTES FOR THE Equipment Buyer and User

Portable Compressor

INGERSOLL-RAND COMPANY

A new portable compressor designed to deliver 500 cubic feet per minute at 100 pounds pressure has been announced by Ingersoll-Rand Company, 11 North Broadway, New York.



Ingersoll-Rand K-500 Compressor

The compressor, designated Model K-500, is powered by either an oil engine or a new-type 6-cylinder gasoline engine that does not require high-grade motor gasoline. It features replaceable cylinder liners for engines and a patented automatic fuel saver to change the engine speed according to use of compressed air. The unit is offered with either wheel- or skid-mounting.

Valve

MERCO NORDSTROM VALVE COMPANY

A new Hypreseal production valve of alloy steel designed for extreme conditions of pressure, temperature and abrasion, and rated from 500 to 7500 pounds working pressure, has been announced by Merco Nordstrom Valve Company, Pittsburgh.

The valve utilizes the Sealdport method of lubrication designed to prevent leakage by introduction of a plastic, viscous seal of lubricant between the plug and its seat and to protect the working surfaces from corrosive or erosive action of the line contents. An unbroken seal of lubricant, under pressure, is described as completely surrounding both inlet and outlet ports of the valve.

The valve plug is a separate conical member, fitted to its seat in the body. The plug is assembled to the body through the bottom opening which is then closed by a screwed member or sealing plug. Threads are sealed by a plastic packing material applied through circular grooves cut into this screwed member. The function of holding the valve plug in its seat is performed by a spring plate interposed between the threaded bottom member and the bottom of the valve plug. The spring plate is described as unaffected by internal pressure, and at no time is there any fixed clearance between the plug and the body.

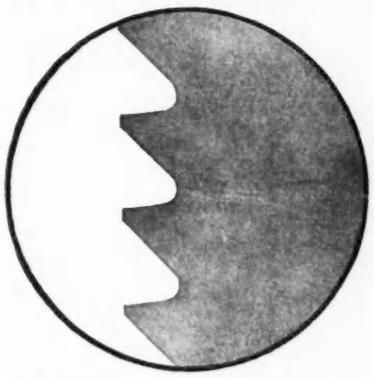
Merco Nordstrom Hypreseal Valve

The valve plug is rotated by a separate stem threaded through the upper part of the body. The stem is joined to the plug through a floating equalizer fitting so that the two parts rotate together, but are independent as to lengthwise movement. A secondary seal, which is called upon principally to prevent the slow escape of lubricant past the stem threads, is provided by compressing a plastic fibrous packing material into an annular recess near the outer end of the stem by means of a compression screw and check valve fitting which permits additional packing to be inserted without removing pressure from the valve.

Taper Taps and Dye Collar Threads

KINZBACH TOOL COMPANY

Taper taps and dye collars with new threads designed to catch any dimension required in a given tool joint combination, with the same tap catching plain pipe, pipe upset and tool joint box, have been announced by Kinzbach Tool Company, Houston.



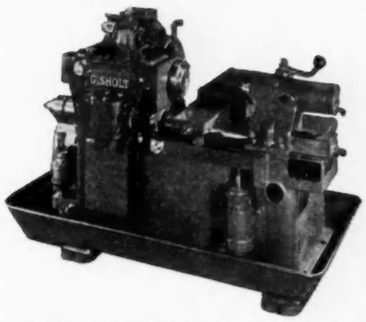
The taper is on an angle to insure correct threading pressure on contact with the fish. The threads are furnished in either buttress or regular V-form, and all have rounded bottoms to prevent stress concentration and subsequent breakage. The material is selected and heat-treated to give a ductile core with a file-hard case, and designed so the tap will bend before breaking.

Dye collars are designed to catch either tool joints or plain pipe for any given combination. The same design consideration with regard to threads, flutes, tapers, material and heat treatment incorporated in the taper taps are also applied to the dye collars. The lower ends of the collars are furnished cut to any desired shape for guiding or working over a fish.

Lathe

GISHOLT MACHINE COMPANY

A new hydraulic automatic lathe for between centers and chucking work has been announced by Gisholt Machine Company, Madison, Wisconsin. It is designated Model 12, and is designed for production turning jobs such as gear blanks, cylinder-liners and pistons, small impellers and flywheels.



Gisholt's Model 12 Automatic Lathe

The lathe provides for a swing of 16¾ inches over the bed, or 12 inches over the front carriage, with a length between centers of 22 inches. The machine has a hydraulic control system to permit handling all functions by means of a single lever. The front carriage and the rear slide have independent hydraulic feed. The machine is equipped with a hydraulically operated main clutch and an automatic spindle brake.

Exhaust Head

COCHRANE CORPORATION

An exhaust head designed to insure separation of condensate and oil from steam discharged to the atmosphere, and thereby prevent raining of water and oil condensate upon the roof or ground below, has been announced by Cochrane Corporation, 17th Street and Allegheny Avenue, Philadelphia.

Described as discharging clean, dry steam noiselessly, the exhaust head incorporates principles of the company's baffle-type steam separators used for

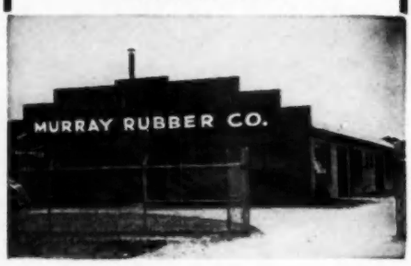
Cochrane Corporation's Exhaust Head

MURRAY RUBBER
Goes to the Oil Show

If you attend the International Oil Exposition you'll see Murray Rubber in numerous oil tools on exhibit there. Cameron Iron Works, Inc., Abercrombie Pump Company, Otis Pressure Control, Bowen Company of Texas, McEvoy Company, Robinson Packer Company, Beaumont Iron Works, Brown Oil Tools, Mission Manufacturing Company, American Well & Prospecting Company, Jeddy D. Nixon Co., and numerous other leading oil tool manufacturers have standardized on Murray Rubber.

If you have a problem in rubber to be solved, bring it to us. We specialize in the manufacture of natural and synthetic oil-resisting mechanical rubber goods for the oil tool manufacturer.

MURRAY
RUBBER COMPANY
606-8 N. Milby — Preston 7017
HOUSTON, TEXAS



This is the
SELF-LOCKING NUT
that is helping to keep hard-working oil field equipment on the job.

See it . . . in a wide range of types and sizes . . . in our exhibit at the Tulsa Show.

● *Write for Catalog*

ELASTIC STOP NUT CORPORATION
1001G NEWARK AVENUE • ELIZABETH, NEW JERSEY

Elastic Stop SELF-LOCKING NUTS

NOTES FOR THE
Equipment Buyer and User

removing oil and moisture from steam lines. Port area is provided to produce low steam velocity and minimize pressure loss. Steam is whipped sidewise after passing through port and causes projection of entrainment against ribbed baffle surfaces. The ribbed baffles exert a scrubbing action in addition to the centrifugal purging force.

The exhaust head is of one-piece semi-steel construction for five sizes between 4- and 12-inch, and of welded steel plate construction for 14-, 16-, and 20-inch sizes.

Fluid-Valve Service

Oil Well Supply Company, Dallas, has issued Bulletin No. 176, a 2-page leaflet describing its Type C fluid-valve service. The unit is described as streamlined, of light-weight one-piece construction and having positive pressure seal and renewable guide bushings.

Direct-Current Generators

General Electric Company, Schenectady, New York, has issued a 4-page bulletin, designated GEA-1607C, giving information on construction features, modifications and available ratings of Type B generators and exciters.

Supply Personals

W. J. Gorley, president, and Kenneth Mills, chief engineer for American Manufacturing Company, were Tulsa visitors recently.

J. W. Owings, chief field engineer for Youngstown Sheet & Tube Company, presented a motion picture on "The Manufacture of Seamless Pipe from Ore to the Finished Product" before the Tulsa Purchasing Agents Association last week.

Carl E. Swindler, 48, Tulsa district manager for Jones & Laughlin Steel Corporation, died April 25.

Shep Miers has resigned as Mid-Continent representative of Kerotest Manufacturing Company at Tulsa to become sales manager for Southwest Supply Company at Houston.

R. H. McPeake, export sales engineer at Port-of-Spain, Trinidad, for Oil Well Supply Company, is in the United States on leave. He will attend the International Petroleum Exposition this week, and will make a number of inspection trips through the midwest before returning to Trinidad.

Errol Holt, Dallas operator, last week announced his candidacy for Texas Railroad Commissioner on a platform for "stabilization of the industry as a means of eliminating the present condition of chaos, confusion and waste" through state, rather than federal control.

CORE AND SHOT HOLE DRILLING CONTRACTORS

"For Better Cores" . . . see Failing . . . Experienced operators and improved equipment save you money on all types of exploration drilling . . . oil, sulphur, and other minerals.

FAILING
EXPLORATION & DRILLING CORPORATION
3611 CALHOUN ROAD
HOUSTON, TEXAS

Exclusive DIE CAST REFLECTOR

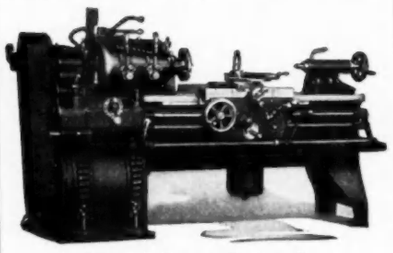
THROWS 1500 FOOT POWER BEAM . . . SEE

ECOLITE Model 72

Get this newest of all Ecolite electric lanterns. It has a top light to give you a broad brilliant floodlight—also the exclusive die-cast reflector spotlight that throws the most powerful focusing shaft of light ever built in an electric portable lantern. Pivot feature, too. Approved by Underwriters' Laboratories. Low in price.

Now Available at Supply Stores

Economy Electric Lantern Co.
3100 W. Cherry St. — Milwaukee, Wis.
Pacific Coast Office:
1818 S. Grand Ave., Los Angeles, Cal.



The Boye & Emmes Timken Bearing Engine Lathe

COMPLETE LINES

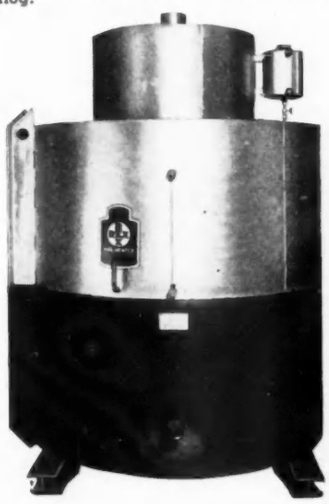
Machine Tools—Metal Working Machinery—Bolt and Pipe Threading Machines—Electric Arc Spot and Butt Welders—Hand Power and Electric Traveling Cranes—Foundry and Forge Shop Equipment.

C. J. HARTER, Machinery
4000 Clay, Houston, Texas
Fairfax 1466

REX PRE-HEATER

Keeps Boilers Clean!

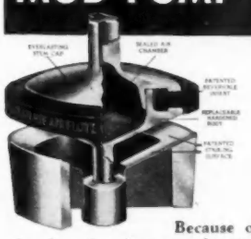
Positively removes silt and sediment from boiler feed water, thus increasing efficiency of boilers and lowering maintenance cost. For complete details see Pages 2146-2147 of your Composite Catalog.



THE REX COMPANY
P. O. BOX 2431 HOUSTON, TEXAS
Mid-Continent Distributor:
The Continental Supply Co.
California Distributor: The Howard Supply Co.

For Month In-Month Out Service

USE MacCLATCHIE "AIRFLOTE" MUD PUMP VALVES



Because of the sealed-in air chamber that increases buoyancy . . . cuts fluid slippage . . . reduces impact . . . and gives more efficient valve action, MacClatchie "Airflote" Pump Valves insure superior performance and longer life under the toughest pumping conditions. Replaceable bodies, reversible inserts and everlasting stem caps give true MacClatchie economy.

MacClatchie "Streamlined" Pump Valves give you *high* quality at *lowest* cost! Of solid one-piece construction, they're streamlined at every point to assure unobstructed fluid flow. Valve Seats (interchangeable with "Airflotes") have 20% to 100% more striking surface than others, PLUS patented cross-bar construction.

All MacClatchie Valves are guaranteed against cutting out the pump. *See our representative or write direct to factory for details on this guarantee.*

MacCLATCHIE MANUFACTURING CO.
COMPTON, CALIFORNIA
Mid-Continent Distributor, HAKE TOOL COMPANY, Houston, Texas
Rocky Mountain Representative, E. L. DELGARDE, Casper, Wyoming
Foreign, GEORGE R. WOODS, 17 Battery Place, New York, N. Y.

NOTES FOR THE Equipment Buyer and User

Fluid Packed Pump Names Frame as Gulf Coast Manager

The Fluid Packed Pump Company has announced appointment of Ora Frame as manager of the Gulf Coast division of the company with headquarters at Houston.

Frame succeeds Robert Miller, and before moving to Houston was in charge of the company's store at Seminole, Oklahoma.

William Taggart Named Timken Manager of Tube Sales

The Timken Roller Bearing Company has announced the appointment of William Taggart as manager of tube sales. Taggart has been associated with the Steel and Tube Division of the company since June, 1928, and prior to that time was employed by Republic Steel Corporation.

Frank F. Hill Honored As Oil Cementing Pioneer

Early in 1903, Frank F. Hill decided to try a few sacks of cement in an effort to whip a troublesome condition caused by salt water in a well near Lompoc, California. Little did he realize he was planting the seed which later was to sprout a new industry reaching to every oil field. His pioneering effort received due acknowledgment at a banquet held in the Jonathan Club in Los Angeles, when he was presented with an everlasting silver plaque acknowledging his pioneering efforts. C. P. Parsons, vice president of Halliburton Oil Well Cementing Company made the presentation on behalf of the

C. P. Parsons is shown presenting a silver token on behalf of 1200 employes of Halliburton Oil Well Cementing Company to Frank F. Hill, acknowledging Hill's pioneering cementing work.

REED WIB [WELDED-IN BLADE] DRILLING BIT

THE INDUSTRY'S MOST ECONOMICAL DRAG TYPE BIT

with
REPLACEABLE DROP FORGED HEAT TREATED BLADES
for
LONGER LIFE
FASTER HOLE
MORE HOLE PER BIT

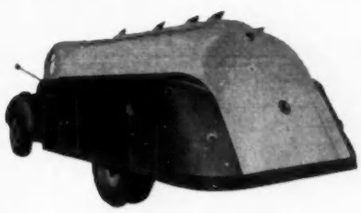
REED ROLLER BIT COMPANY

The Industry Looks to the Leader for Skid Tanks, Underground Tanks, Truck Tanks, Bulk Storage Tanks.

Butane Skid Tank
A.S.M.E. Code Construction

Our tanks are built by men with 20 years experience in construction of containers for high grade pressure fuels.

TRUCK TANKS made to your order and special needs.



Write, wire or phone for prices.

DALLAS TANK & WELDING COMPANY, INC.
"Tanks by Banks"
201-5 W. Commerce Street, Phone 2-5513
DALLAS, TEXAS

MERLA

AIRPLANES!
AUTOMOBILES!
FLOW VALVES!

Do they have anything in common? Definitely YES, if they are Merla FLOW VALVES . . . Sounds fanciful, doesn't it . . . yet it is all a matter of application of POWER. The pilot "takes off" at full throttle, then cuts back to half or two thirds for "cruising" . . . You start your car in "low" then shift through to "high" for steady driving. . . . It is a fundamental physical law . . . namely, that MORE ENERGY is required to initiate movement and reach a given velocity, with a LOAD, than is required to MAINTAIN that velocity . . . You get the same action from the AUTOMATICALLY controlled gas passage in the MERLA FLOW VALVE and ONLY with Merla . . . a high rate of gas flow to start the load, then a lower rate to MAINTAIN flowing velocity . . . resulting in lower kick-off pressures and lower gas fluid ratio. And you will want to know this fact—MERLA was the FIRST Flow Valve to be actuated as a result of the DIFFERENTIAL PRESSURE existing across a solid piston.

Licensed under Boynton Patents

Insert Pump
Anchors
Packers
Flow Valves
Swabs

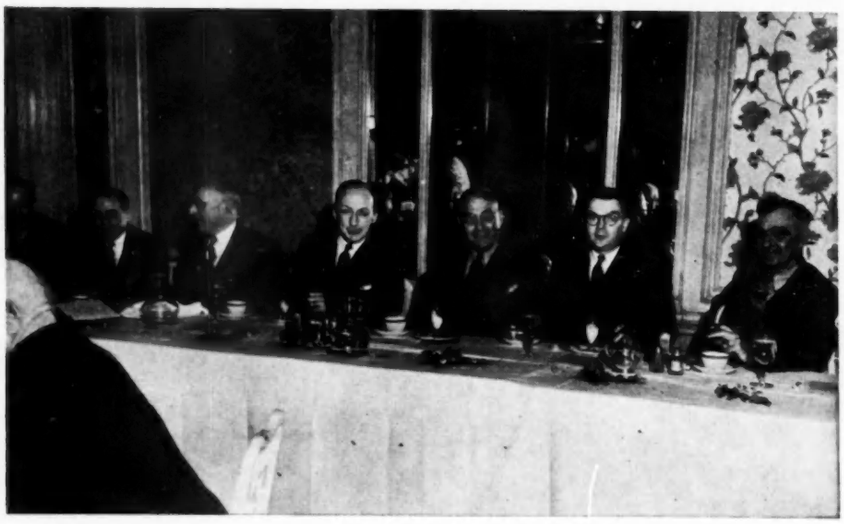
Send for your copy of the Merla Descriptive Catalog

See Pages 1642-1643 Composite Catalog

Export—Frick-Reid Supply Corp., 30 Rockefeller Plaza, New York, N. Y.

MERLA TOOL CORPORATION
Manufacturers of Oil Field Equipment
P. O. Box 2576 Dallas, Texas
Oil Field Engineering Sales Co. 710 Garfield Alhambra, Calif. Service in all Principal Mid-Continent Oil Fields

NOTES FOR THE Equipment Buyer and User



Seated at the speakers' table at a banquet honoring Frank F. Hill for his pioneer oil well cementing work were, left to right, John C. Halliburton, Erle P. Halliburton, Leonard Lyon, C. P. Parsons, Hill, A. C. Rubel and Cy Bell.

1200 oil well cementing employes who depend for their living upon the work Hill commenced. Gathered at the banquet were notable oil and equipment men.

After deciding to try to cement behind the lower part of the casing so as to permanently seal off some troublesome salt water that threatened to make it impossible to complete the test, Hill went to the machine shop operated by Union Oil Company, of which he was then field superintendent, to have a special dump bailer built. After some difficulty, a dump bailer was devised. Mixing some cement and water in a box on the derrick floor, the slurry was poured into the bailer, which was run to the bottom of the well to dump the cement. The casing was picked up several feet off bottom and lowered into the cement slurry. He figured that when the casing reached bottom some of the cement would be outside and some inside the casing. After allowing the cement to harden, he was able to resume drilling without difficulty. That was beginning of oil well cementing.

The next important development was by A. A. Perkins, who 30 years ago created a greatly improved method of cementing, and who organized Perkins Cementing Company. Then came Erle P. Halliburton, who 20 years ago advanced the method of mixing cement for oil wells. Oil well cementing technique and equipment have advanced at amazing rates since that time, but the fundamentals were laid down by Perkins and Halliburton after Hill's early pioneering had shown the possibilities of cement use. The organizations of Perkins Cementing Company and Halliburton Oil Well Cementing Company were consolidated on March 15, 1940, under the latter firm's name.

Gaso Pump & Burner Increases Manufacturing Space

Gaso Pump & Burner Manufacturing Company, Tulsa, has added 7500 square feet of floor space to its main manufacturing plant through purchase of a property immediately south of the companys site. The added space will be utilized as a warehouse.

Visit Booth 125 - Kansas Bldg.

INTERNATIONAL PETROLEUM EXPOSITION
TULSA, OKLAHOMA . . . MAY 18 TO MAY 25

It Will Convince You of the Superiority of

"XL" UPSET AND PLAIN TUBING COUPLINGS
RECESSED LINE PIPE COUPLINGS
EXPLORATION (Shooting) COUPLINGS

AND "ALL-THRED" THREAD PROTECTORS

WHEELING MACHINE PRODUCTS CO.
WHEELING WEST VIRGINIA

CONTRACTING COMPLETE
PIPE LINE,
GENERAL
OIL FIELD
CONSTRUCTION
W. LEE WOOD
Wood Engineering & Construction Co.
Arp, Texas—Phone 74
Tyler, Texas—Phone 4709

NOTES FOR THE Equipment Buyer and User

GET ACCURATE RESULTS
Quickly . . Easily . . with
CURTIN CENTRIFUGES

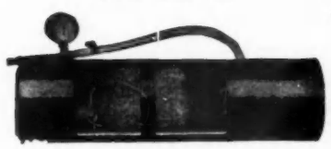
No. 3480...100 c.c. machine. Cranks and heads interchangeable with 15 c.c. machines.

You can maintain your required speed for the period of the test with much less effort. Curtin Centrifuges, proven world-wide, are heavy duty, rigidly constructed, and extremely simple in design. Illustrated bulletin, giving full details, available upon request.

W·H·CURTIN & CO. Inc.
HOUSTON U·S·A TEXAS

Standco
NO-SMOKE
STANDCO BRAKE LINING
nothing novel—no bunk—but it gets the job done without scoring brake rims. See page 2100 Composite Catalog.
Standco Brake Lining Co.
HOUSTON

STOPPERS FOR OIL LINES



Send for catalogue
SAFETY GAS MAIN STOPPER CO.
523 Atlantic Ave. Brooklyn, N. Y.

Wickwire Spencer Names Rairden Wire Rope Sales Manager

Wickwire Spencer Steel Company, 500 Fifth Avenue, New York, has announced the appointment of A. S. Rairden as wire rope sales manager.

A. S. Rairden

For the past seven years as rope engineer, Rairden has functioned as contact between the sales and production departments, assisting in the production, sales and servicing of wire rope for all rope-using industries.

Rairden's role in the wire rope industry began 20 years ago. A graduate of M. I. T. with a B.S. degree in metallurgical and mining engineering, he went with Carnegie Steel Corporation where he was employed on the iron blast furnaces. In 1923, he was transferred to American Steel & Wire Company where he became wire rope mill superintendent. During this period he was a member of committees working up and compiling hemp center specifications and standard practices for wire rope manufacture. Shortly after he was appointed to a United States government committee assigned to the task of compiling and revising government master wire rope specifications.

From 1930 to 1933, Rairden was with American Cable Company and Hazard Wire Rope Company as chief engineer and assistant to the vice president in charge of sales.

Tyson Roller Bearing Names Industrial Sales & Engineering

The Tyson Roller Bearing Corporation, Massillon, Ohio, has announced appointment of Industrial Sales & Engineering Company as their factory representative in the Mid-Continent and Gulf Coast fields. Industrial Sales & Engineering Company maintains sales and engineering offices in Houston, Dallas and Tulsa.

Howard R. Murphy Returns to Caterpillar's Sales Department

Howard R. Murphy has been appointed sales manager of the central division for Caterpillar Tractor Company. He comes to the company from Sears Roebuck & Company, where he managed the tractor business for that concern.

H. R. Murphy

Murphy originally joined Caterpillar Tractor Company 13 years ago. Employed in various sales capacities, he became manager of the company's sales development division. In

Everyone is Economizing---that's why operators are installing . . .
Line Scales

See Our Exhibit
INTERNATIONAL PETROLEUM EXPOSITION
TULSA
MAY. 18-25

Booths 130 & 131, Oklahoma Bldg.

Drilling costs are cut—efficiency increased—when you specify LINE SCALE. In every field, operators rely on LINE SCALE for accuracy, sensitivity, durability—and *economy*. LINE SCALE'S rugged construction means longer life, too. Whatever your drilling or well-servicing task demands—from 40,000 pounds to 500,000 pounds—there's a LINE SCALE that does the job better—for less money.

SOLD THROUGH YOUR FAVORITE SUPPLY STORE IN ANY FIELD

Line Scale Co. Inc.
907-11 S. E. 29th St. 2-1765 P. O. Box 4139
OKLAHOMA CITY, OKLAHOMA
EXPORT REPRESENTATIVE: Lloyd G. Ensign, 30 Rockefeller Plaza, New York City, N. Y.
GULF COAST SALES AND SERVICE: Brown Oil Tools, Inc., Houston Texas

NOTES FOR THE Equipment Buyer and User

1938, he left the company to take the post with Sears Roebuck & Company.

The central sales division comprises a large area in the middle west, extending north and south from the Great Lakes to the Gulf of Mexico. Murphy succeeds C. M. Burdette, who has resigned to take a brief rest and later to become associated in another business.

Air Reduction Company Advances John J. Crowe

John J. Crowe, former manager of the apparatus research and development department of Air Reduction Company, has been appointed assistant to Herman Van Fleet, vice president and operating manager.

John J. Crowe

Crowe will direct activities of the apparatus research and development department and will coordinate them with similar activities for Wilson Welder & Metals Company. In addition, he will handle apparatus patent matters for Van Fleet.

H. E. Landis, Jr., former assistant to Crowe, has been appointed manager of the apparatus research and development department.

In another Air Reduction Company change, C. G. Andrew has been made manager of gas plants.

Charles A. Spears Joins LaPlant-Choate Manufacturing Company

Charles A. Spears has resigned his position in Caterpillar Tractor Company's sales department to become director of sales development for LaPlant-Choate Manufacturing Company, Cedar Rapids, Iowa.

After being graduated from the University of Southern California with the degree of civil engineer, Spears founded the Spears-Wells Machinery Company of Stockton, California, in 1912, and became vice president and general manager of this manufacturer of graders and oiling machinery. He left the firm in 1929 to become California district representative of Caterpillar Tractor Company, later serving as supervisor of government and construction sales. Of late he had been connected with the sales development division.

While he will make his headquarters at Cedar Rapids, Spears will spend considerable time in the field in cooperation with the company's district representatives.

Mid-Continent Pump Supply Distributor for Pacific Pump

George E. Bigelow, president and general manager of Pacific Pump Works, Los Angeles, has announced appointment of Mid-Continent Pump Supply, Tulsa, for distribution, sales and service in the Mid-Continent area of Pacific centrifugal pumps for pipe line, refinery, hot oil, municipal and industrial service, and Pacific deep well centrifugal turbines for water wells.

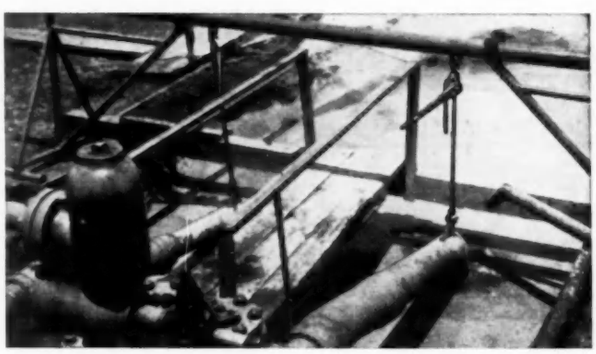
Operations in the area will be under the direction of Roy A. Dunbar, president of Mid-Continent Pump Supply Company, which company has for several years represented Pacific deep oil pumps in Mid-Continent fields.

Strip Heaters

General Electric Company, Schenectady, New York, has issued Bulletin GEA-1157C, containing four pages describing strip heaters for pipe lines and other industrial applications. Available in two classes, one strip heater is a steel-sheath heater for operation at sheath temperatures up to 750° F., and the other is porcelain-enameled steel-sheath for operation at sheath temperatures up to 1200° F. The bulletin gives installation and application data.

Adv.

"Now maybe we can convince the boss we need a Sievers Reamer on this string!"



COFFING "Safety-Pull" HOISTS

FOR SAFETY-SPEED-ECONOMY

For raising and lowering suction hose, pulling rods to power wells; raising, lowering and installing pipe lines, bending pipe, pulling up guy wires, in fact wherever a lift or pull is needed, the Coffing "Safety-Pull" will do the job quickly, safely and economically.

RATCHET LEVER
SPUR GEAR
ELECTRIC
LOAD BINDERS
DIFFERENTIALS
TROLLEYS

Write for new literature showing Coffing "Safety-Pulls" in action.

SAFETY FEATURES

Push Button Control for reversing action without releasing handle . . . **5 Separate Safety Stops** to prevent handle from releasing and whirling, avoiding injury to operator or damage to load . . . **Double Set of Pawls** permit load to be stopped in locking position at half stroke length . . . **"Safety-Valve" Handle** warns when hoist is dangerously overloaded.

Capacities from 3/4 to 15 tons. Each hoist is factory tested to lift 100% overload.

COFFING HOIST CO.

800 WALTERS STREET DANVILLE, ILLINOIS

South American Representative: Armco International Corp.

Squeaks from the Bull Wheel

Proper Censorship

I took the recipe for this cake out of the cook book.

You did perfectly right, dear. It never should have been put in.

Is There No Limit?

Not a day passes but what my wife shows her incompatibility.

Ain't it a crime the way women dress?

Multiplying Division

Your communism is stupid. If everything were divided today, in a very short time your portion would be gone. What then?

Divide again.

Quiet Worker

A very particular housekeeper was having her bedroom painted. Wishing to learn what progress the painter was making, she crept to the bottom of the stairs and listened. Not a sound reached her ears.

Painter, are you working?

Yes, ma'am.

I can't hear you making a sound.

Perhaps not, ma'am, I ain't putting the paint on with a hammer.

Good Ingredients

What is college bred, daddy?

They make college bread, my boy, from the flower of youth and the dough of old age.

Charming

What a beautiful view that is.

Maybe. But if you had to plow that view, harrow it, cultivate it, hoe it, mow it, fence it, and pay taxes on it, it wouldn't look so pretty.

Exit

The party was dreadfully dull, and the guests were sitting round, looking and feeling very bored. The hostess, in an attempt to infuse a little pep into the proceedings, said brightly: "Well, what shall we do next? Does anyone know a really good game we can play?"

"Well," a normally gay young man suggested, "I know a decent guessing game. How do we play? Well, first of all I go out—and everyone spends the rest of the evening trying to guess where I've gone."

Whose Car?

"How is that young man with whom you fell in love at first sight?"

"Oh, he was a fraud. It was his chief's car that he was in."

Something Scarce

"Pa, what is a parking place?"

"An unfillable opening in an unending line of automobiles near an unapproachable fire plug."

For Exercise

"So you don't intend to make a rock garden again this spring?"

"No, it has proved in the past to be nothing but a gymnasium for the neighbor's chickens."

Following Suit

"This is a good restaurant, isn't it?"

"Yes, sir, best in town. If you order a fresh egg, you get the freshest egg in the city, sir. If you order hot soup, you get the hottest soup in the city, sir. If——"

"I believe you're right. I ordered a small steak."

Generous

"Son, why don't you play circus? It's great fun. First you make a sawdust ring."

"But where would I get the sawdust, dad?"

"Here's the saw. Just cut some of the firewood into fireplace lengths. And you can have all the sawdust you make."

Hooked

"Why do you call him one of the landed gentry?"

"Well, er—er—he was just married."

Extravagance

"I bought two of the most gorgeous dresses today. Only one hundred dollars all told."

"Gracious; why didn't you call me at the office and ask me about it first?"

"Oh, I didn't want to waste a nickel that way."

Line Not Working

"What is the best way to approach you for a little loan?"

"Well if I were you, I'd make the request by telephone, then hang up before you receive an answer."

Attraction

"Did my voice fill the drawing room?"

"No, it filled the refreshment room and the conservatory."

Kitty, Kitty

"Had you heard that Jane is engaged to an X-ray specialist?"

"Well, she's lucky. Nobody else could see anything in her."

The Critic

"My daughter's music," sighed the mother, "has been a great expense."

"Indeed," said the guest. "Some neighbor sued you, I suppose?"

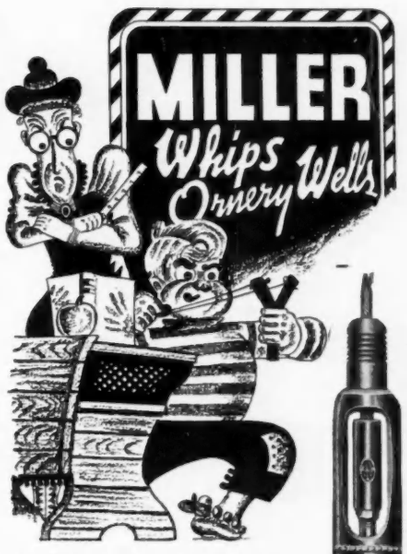
Couldn't Stump Him

An invitation to dinner had been sent to the newly settled physician. In reply, the hostess received an absolutely illegible letter.

"If I were you," suggested her husband, "I should take it to the druggist. Druggists can always read doctors' letters, however badly they are written."

The druggist looked at the slip of note-paper, went into his dispensary, and returned a few minutes later with a bottle, which he handed over the counter.

"There you are, madam," he said. "That will be 75 cents."



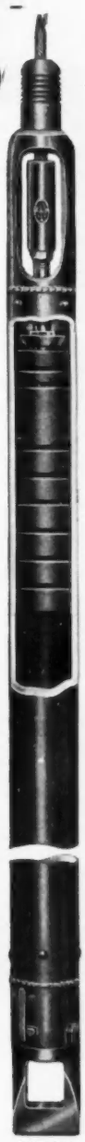
Has the production of your wells fallen off? Clean-out the sand and sediment that is holding back the oil, quickly at small cost with a MILLER—*the Sand Pump in World-Wide-Use.*

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY DUTY Sand Pumps.

INTERCHANGEABLE BOTTOMS

To Meet Every Condition

- **BAILER BOTTOM** — With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.
- **SAND BOTTOM** — Used when tools are run and when well is shot to quickly remove loose material.
- **STAR BOTTOM** — Used for cutting the sand loose.
- **CHISEL BOTTOM** (In Pump) — With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.



Write for Descriptive Folder and Price List

See Pages 1672-73 COMPOSITE CATALOG

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